WIRING MATERIALS POWER APPARATUS

GENERAL ELECTRIC SUPPLY CORPORATION

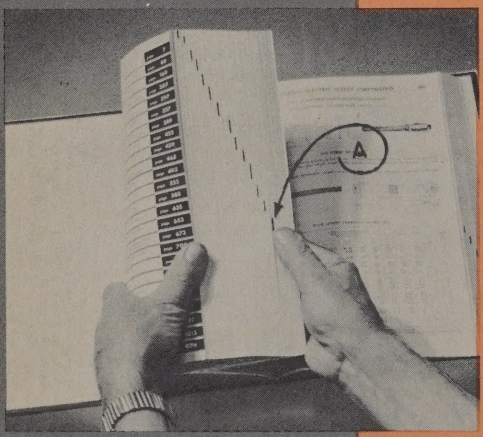
sectional index

how to use it

Here's the quick, easy way to find the desired section in this catalog.

1. "Fan" back the pages as illustrated below (illustration #1). Black guide marks will appear along the spread edge of the book (See Arrow "A") — each mark opposite the section as listed on following page.

2. Press your right thumb down on the edge of the page carrying the black mark selected (illustration #2). Open the catalog and you are at the beginning of the desired section.



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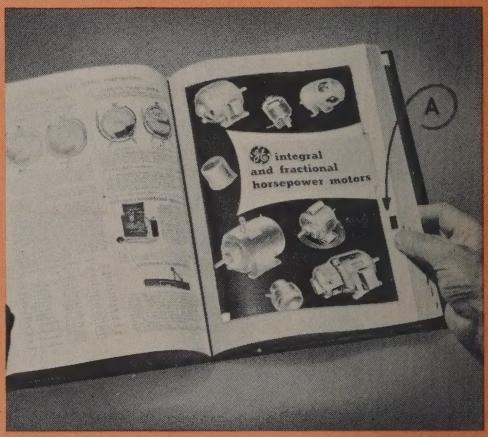

2. and open to your section

CONDUITS & FITTINGS	—Rigid—Everdur—Thin Wall. Boxes—Cabinets—Accessories.	page 7
CONDUIT BODIES	—Condulets—Quelarc—Triploc—Marine—Unilarm—Specialties.	page 69
RACEWAYS & WIRING SYSTEMS	—Fiberduct—Q-Floor—Keystone—Wiremold—Curtistrip—Pierceway—Feedrail.	page 169
WIRES, CABLES, CORDS	—Flamenol—Varnished Cambric—Geoprene—Versatol—Service Entrance—Magnet—Deltabeston—BX & BXL—Building—Aluminum.	page 207
WIRE & CABLE ACCESSORIES	—Potheads—Bushings—Cable Supports—Lugs—Connectors—Sleeves—Clips—Knobs—Tubes—Cleats.	page 297
INSULATING MATERIALS	—Solder & Fluxes—Glyptal—Sealing & Filling Compounds—Mica—Varnished Cambric—Transite—Tapes.	page 327
WIRING DEVICES, CUTOUTS, FUSES	—Sockets—Receptacles—Range Outlets—GE Remote Control—P&S Despard—Monowatt—Safeway—Protex—Everlok—Heating Elements.	page 349
TRUMBULL EQUIPMENT	—Safety Switches—Open Knife Switches—Entrance Equipment—Panelboards—Flex-A-Power.	page 423
ELECTRONIC TUBES		page 459
METERS, INSTRUMENTS & TIMERS	—Watthour Meters—Timing Devices—Switchboard Instruments—Portable Instruments.	page 465
TRANSFORMERS & ALLIED PRODUCTS	—Ballasts—Signal—Distribution—Lightning Arresters—Protection—Capacitors.	page 493
SWITCHGEAR	—Switchboards—Circuit Breakers—Components.	page 553
MOTORS & CONTROL	—Fractional & Integral HP Motors—Magnetic Control—Manual Control—Pulleys—Belts.	page 585
INDUSTRIAL EQUIPMENT	—Industrial Heating Devices—Rectifiers—Bulbs—Chargers.	page 635
FANS & BLOWERS	—Ventura Fans—Utility Sets—Pressure Blowers—Domestic Fans & Ventilators.	page 653
SIGNALLING & COMMUNICATION EQUIPMENT	—Horns—Bells—Buzzers—Nurses' Calls—Telephones—Alarms.	page 673
OUTDOOR LIGHTING	—Street Lighting—Traffic Signals—Floodlights—Airport Lighting—Underwater Lighting—Standards & Towers.	page 709
INDOOR LIGHTING	—Commercial—Industrial.	page 745
LAMPS & ACCESSORIES	—Lamps—Testers—Light Meter—Coloring.	page 869
OUTDOOR CONSTRUCTION MATERIAL	—Underground Conduit—Poles—Insulators—Pole Line Hardware—Cable Racks—Iron Wire & Strand.	page 879
MISCELLANEOUS HARDWARE	—Screw Anchors—Expansion Shields—Toggle Bolts—Drive Rings—Staples—Screws.	page 923
TOOLS	—Conduit—Pole Line—Tree Trimming—Cable—Pulleys—Maintenance—Electric—Electrician & Lineman—Punches—Drills & Bits—Torches.	page 937
MISCELLANEOUS	—Cleaners—Lanterns & Flashlights—Radio Batteries—Lamp Changers—Battery Instruments.	page 997
USEFUL INFORMATION		page 1013
INDEX		page 1051

introductory

This Wiring Materials and Power Apparatus book is presented with the idea of offering information that will be profitable and useful in the proper selection of Power Apparatus and various types of Wiring Materials necessary for Industrial, Residential, Rural and Outdoor Wiring installations.

Because of the constantly increasing uses for electricity and the accompanying new devices, this book has been compiled to help you keep abreast with the latest developments in the power apparatus, current transmission equipment, wiring materials and lighting equipment. We have included in this one book as complete information as possible, arranged in a sequence that will provide easy reference.

As distributors of the products described on the following pages, we feel the further obligation of presenting lines produced by manufacturers who have a background of years of experience and engineering talent. We unhesitatingly recommend the lines listed herein — chosen because of their quality and value and the integrity of the manufacturers.

The General Electric Supply Corporation's aim is to make service as complete as possible — broader than that of a mere supplier of wiring materials, power apparatus and lighting equipment. The services of our experienced power apparatus and lighting specialists — experts who keep closely in touch with correct practices in their field — are available to all architects and contractors — or any client who is interested in a complete analysis of his power or lighting problems.

The service of our own specialists is augmented further by the staff of the General Electric Company and other manufacturers whose products we distribute.

GENERAL ELECTRIC SUPPLY CORPORATION

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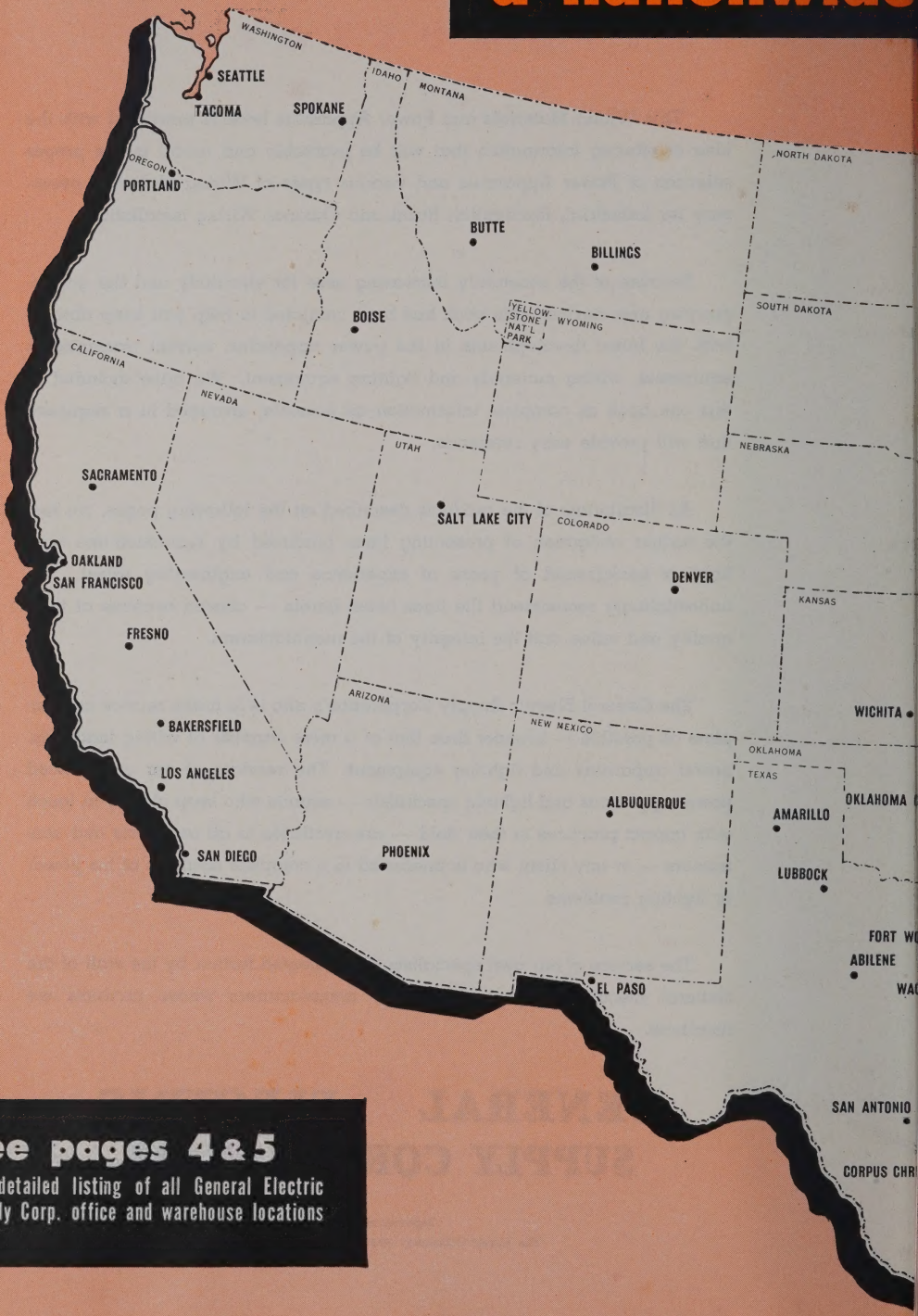
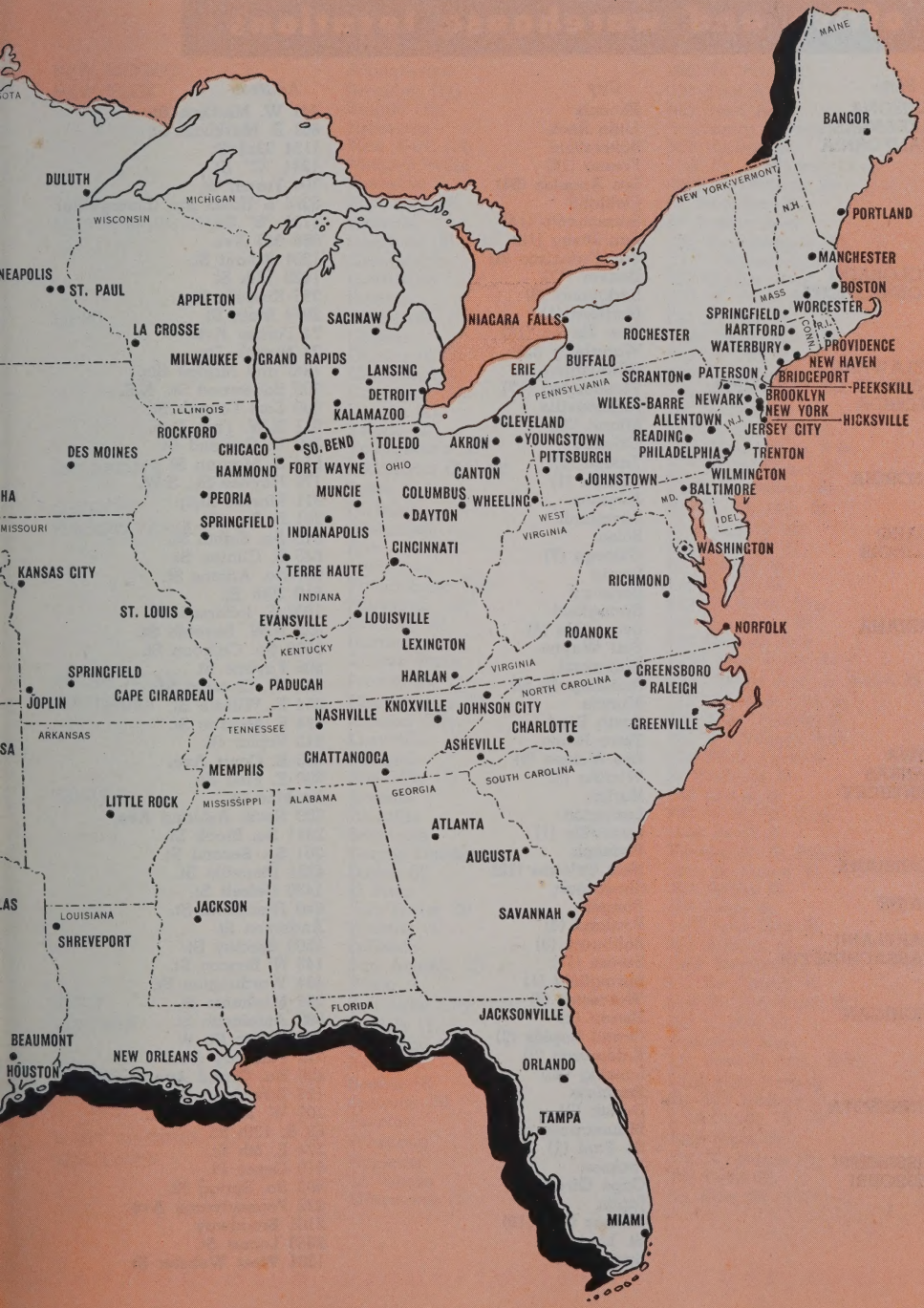
The Jaqua Company, Grand Rapids 2, Michigan

a nationwide



see pages 4 & 5
For detailed listing of all General Electric Supply Corp. office and warehouse locations

rganization to serve you



GENERAL ELECTRIC SUPPLY CORPORATION

office and warehouse locations

State	City	Address
ARIZONA	Phoenix	441 W. Madison St.
ARKANSAS	Little Rock	601 E. Markham St.
CALIFORNIA	Bakersfield	1134 33rd St.
	Fresno (18)	1234 "O" St.
	Los Angeles (54)	700 Turner St.
	Oakland	53rd & Hollis Sts. (Emeryville)
	Sacramento (14)	1131 "S" St.
	San Diego (12)	668 3rd Ave.
	San Francisco (3)	1201 Bryant St.
COLORADO	Denver (17)	1429 18th St.
CONNECTICUT	Bridgeport (8)	335 Kossuth St.
	Hartford (1)	2964 Main St.
	New Haven (13)	74 Forbes Ave.
	Waterbury (20)	23 Nichols Dr.
DELAWARE	Wilmington	18th and Market Sts.
DISTRICT OF COLUMBIA	Washington (17)	705 Edgewood St., N.E.
FLORIDA	Jacksonville	530 East Forsyth St.
	Miami (30)	811 N.W. First Ave.
	Orlando	520 N. Garland St.
	Tampa (1)	514 S. Morgan St.
GEORGIA	Atlanta (1)	172 Haynes St., S.W.
	Augusta	811 Marion Bldg.
	Savannah	301 E. Bay St.
IDAHO	Boise	618 So. Eighth St.
ILLINOIS	Chicago (7)	845 S. Clinton St.
	Peoria	800 So. Adams St.
	Rockford	810 20th St.
	Springfield	1007 E. Jefferson St.
INDIANA	Evansville (4)	422 N.W. Seventh St.
	Fort Wayne	1609 So. Calhoun St.
	Hammond	506 Fayette St.
	Indianapolis (9)	326 W. Georgia St.
	Muncie	204 E. Willard St.
	South Bend	424 E. Monroe St.
	Terre Haute	810 Poplar St.
IOWA	Des Moines (9)	513 E. Court Ave.
KANSAS	Wichita (3)	800 E. First St.
KENTUCKY	Harlan	Hoskins St.
	Lexington	309 North Ashland Ave.
	Louisville (1)	2311 So. Brook St.
	Paducah	301 So. Second St.
LOUISIANA	New Orleans (12)	4221 Bienville St.
	Shreveport	1430 Dalzell St.
MAINE	Bangor	840 Hammond St.
	Portland (3)	Anderson St.
MARYLAND	Baltimore (3)	1500 Barclay St.
MASSACHUSETTS	Boston (17)	145 N. Beacon St.
	Springfield (1)	484 Worthington St.
	Worcester (8)	163 Mechanic St.
MICHIGAN	Detroit (2)	680 Antoinette St.
	Grand Rapids (2)	305 Fulton St. W.
	Kalamazoo (3)	112 Parkway Ave.
	Lansing (30)	428 No. Grand Ave.
	Saginaw	125 Davenport St.
MINNESOTA	Duluth (2)	102 W. Michigan St.
	Minneapolis (4)	63 S. 13th St.
	St. Paul (1)	174 E. 6th St.
MISSISSIPPI	Jackson	610 Gesco Pl.
MISSOURI	Cape Girardeau	402 So. Sprigg St.
	Joplin	922 Pennsylvania Ave.
	Kansas City (10)	2101 Broadway
	St. Louis (3)	2653 Locust St.
	Springfield	1301 West Webster St.

State	City	Address
MONTANA	Billings	2710 Montana Ave.
	Butte	900 E. Front St.
NEBRASKA	Omaha (2)	914-920 N. 18th St.
NEW HAMPSHIRE	Manchester	57 Bedford St.
NEW JERSEY	Jersey City (6)	157 Tonnele Ave.
	Newark (5)	221 Frelinghuysen Ave.
	Paterson (3)	561-569 E. 31st St.
	Trenton (8)	Brunswick Ave. Ext.
NEW MEXICO	Albuquerque	820 No. First St.
NEW YORK	Brooklyn (11)	135 Kent Ave.
	Buffalo (13)	960 Busti Ave.
	Hicksville	Broadway & Fourth St.
	New York (14)	585 Hudson St.
	Niagara Falls	11th St. & Whitney Ave.
	Peekskill	1000 N. Division St.
	Rochester (4)	67 Mortimer St.
NORTH CAROLINA	Ashville	47 Rankin Ave.
	Charlotte (6)	700 Tuckaseegee Rd.
	Greensboro	1111 Willowbrook Dr.
	Greenville	200 Hooker Ave.
	Raleigh	800 W. Poole St.
OHIO	Akron (8)	225 E. Mill St.
	Canton	123-5 Sixth St., S.W.
	Cincinnati (2)	215 W. 3rd St.
	Cleveland (4)	4958 Woodland Ave.
	Columbus (15)	146 N. 3rd St.
	Dayton (2)	601 E. 3rd St.
	Toledo (4)	28 No. St. Clair St.
	Youngstown (2)	265 West Rayen Ave.
OKLAHOMA	Oklahoma City (2)	127 E. California St.
	Tulsa	14-18 N. Guthrie St.
OREGON	Portland	300 N. W. 14th St.
PENNSYLVANIA	Allentown	1249 Liberty St.
	Erie	824 East 9th St.
	Johnstown	80 Hickory St.
	Philadelphia (23)	429 N. 7th St.
	Pittsburgh (12)	200 W. River Ave.
	Reading (9)	447 No. Front St.
	Scranton (2)	204 Monroe Ave.
	Wilkes Barre	85-97 East Union St.
RHODE ISLAND	Providence (1)	Cor. Harris Ave. & Acorn St.
TENNESSEE	Chattanooga (2)	112-116 West 13th St.
	Johnson City	425 West Walnut St.
	Knoxville	701 W. Jackson Ave.
	Memphis	500 South Front St.
	Nashville (1)	90 Peabody St.
TEXAS	Abilene	190 Locust St.
	Amarillo	701-711 E. 5th Ave.
	Beaumont	1295 Pearl St.
	Corpus Christi	Portsite, P. O. Box 68
	Dallas (2)	1811 N. Lamar St.
	El Paso	300 Dallas St.
	Fort Worth (2)	409 Jones St.
	Houston (1)	1312 Live Oak St.
	Lubbock	221 Avenue H
	San Antonio (2)	1801 Broadway
	Waco	217 So. Fourth St.
UTAH	Salt Lake City (12)	310 W. 2nd South St.
VIRGINIA	Norfolk (1)	709 E. 26th St.
	Richmond (14)	Sherwood Ave.
	Roanoke	515 Norfolk Ave., S.W.
WASHINGTON	Seattle (4)	1212 First Ave., S.
	Spokane (8)	So. 122 Monroe St.
	Tacoma	2316 South "A" St.
WEST VIRGINIA	Wheeling	1422 Main St.
WISCONSIN	Appleton	116 W. Harris St.
	La Crosse	222 Pearl St.
	Milwaukee (1)	So. First St.

a nation-wide organization at your command

general information

In compiling this Wiring Material and Power Apparatus Book we have endeavored to make it an up-to-date reference book on all wiring materials, power apparatus and pole line equipment, illustrating and describing equipment in such a manner as to make possible a quick selection of the proper and best equipment for various applications. Special catalogs, bulletins and prices will be furnished upon request, covering equipment for special application or not fully described or shown in this publication.

list prices

While in some cases list prices are indicated, they are offered as a guide to comparative values only. They are not offered as quotations, and are subject to change without notice. Definite quotations will be given gladly immediately upon receipt of request.

orders

When ordering materials, please indicate catalog number and give description of the material required.

Orders should be kept separate from all other correspondence to assure prompt attention to both correspondence and orders.

routing

Routing or shipping instructions should be specified on each order. If specific instructions are not given with each order we shall use our best judgment in selecting the route, but we accept no responsibility for extra drayage or handling expense at destination.

terms

Customers with acceptable credit standing are given terms of net thirty days subject to standard cash discounts applicable to some classes of material. If your credit standing is unknown to us, and you are not rated by commercial agencies, we can give you more prompt service on your material order if it is accompanied by references and other information of a credit character. We can give our best service on initial orders if we are instructed to ship COD or subject to sight draft against bill of lading. We can inform you of terms on subsequent orders after credit investigation is complete.

shipments

As we employ experienced packers, and as reasonable care is used in packing, we cannot be held responsible for breakage in packages that occurs after we have obtained "good order" receipt from the transportation company. Claims of such character should be made promptly against the transportation company; but if we are notified of such claims, we will gladly lend our assistance to obtain settlement.

returned goods

To save transportation charges, and to facilitate the handling of materials upon receipt, it is requested that no materials be returned without obtaining shipping instructions from us. We stand ready at all times to rectify any mistakes we may make.

conduit
products

RIGID METAL CONDUIT

Excerpts from National Electrical Code (1951 Edition)

ARTICLE 346—RIGID METAL CONDUIT

3461. Scope. Installations of rigid metal conduit shall comply with the provisions of sections 3001 to 3020 inclusive and in addition shall comply with the provisions of the following sections 3462 to 3471 inclusive.

3462. Use. Rigid metal conduit may be used under all atmospheric conditions and occupancies, except that ferrous raceways and fittings protected from corrosion solely by enamel may be used only indoors and in occupancies not subject to severe corrosive influences. Conduits and fittings exposed to severe corrosive influences shall be of corrosion-resistant material suitable for the conditions. If practicable, the use of dissimilar metals throughout the system shall be avoided to eliminate the possibility of galvanic action.

Meat-packing plants, tanneries, hide cellars, casing rooms, glue houses, fertilizer rooms, salt storage, some chemical works, metal refineries, pulp and paper mills, sugar mills, round houses, some stables, and similar locations are judged to be occupancies where severe corrosive conditions are likely to be present.

3463. Cinder Fill. Conduit, unless of corrosion-resistant material suitable for the purpose shall not be used in or under cinder fill where subject to permanent moisture unless protected on all sides by a layer of non-cinder concrete at least 2 inches thick or unless the conduit is at least 18 inches under the fill.

3464. Wet Locations. In portions of dairies, laundries, canneries, and other wet locations, and in locations where walls are frequently washed, the entire conduit system, including all boxes and fittings used therewith, shall be so installed and equipped as to prevent water from entering the conduit and the conduit shall be mounted so that there is at least one-quarter inch air space between the conduit and the wall or other supporting surface.

3465. Minimum Size. No conduit smaller than ½ inch, electrical trade size, shall be used, except as provided for underplaster extensions in Article 344, and for enclosing the leads of motors as permitted in section 4439, paragraph b.

3466. Number of Conductors in Raceway. One conduit shall not contain more conductors of a given size than are specified in Tables 4 to 11 of Chapter 10.

3467. Reaming. All ends of conduits shall be reamed to remove rough edges.

3468. Bushings. Where a conduit enters a box or other fitting, a bushing shall be provided to protect the wire from abrasion unless the design of the box or fitting is such as to afford equivalent protection. See paragraph b of section 3736 for the protection of conductors at bushings.

3469. Couplings. Threadless couplings and connectors used with conduit shall be made tight. If installed in wet places or buried in masonry, concrete, or fill shall be of a type to prevent water from entering the conduit. Running threads shall not be used on conduit for connection at couplings.

3470. Bends—How Made. Bends of rigid conduit shall be so made that the conduit will not be injured, and that the internal diameter of the conduit will not be effectively reduced.

3471. Bends—Number in One Run. A run of conduit between outlet and outlet, between fitting and fitting, or between outlet and fitting shall not contain more than the equivalent of 4 quarter bends (360 degrees, total), including those bends located immediately at the outlet or fitting.

ARTICLE 500—HAZARDOUS LOCATIONS

Class I—Installation

5014. Wiring Methods. Wiring methods shall conform to the following:

a. Class I, Division 1. In Class I, Division 1 locations, rigid metal conduit with threaded explosion-proof joints, and explosion-proof boxes and fittings, shall be the wiring method employed. All threaded joints shall be made up with at least five full threads engaged. Where necessary to employ flexible connections, as at motor terminals, flexible fittings of explosion-proof type approved for the location shall be used.

b. Class I, Division 2. In Class I, Division 2 locations, rigid metal conduit or electrical metallic tubing shall be the wiring method employed. Where necessary to employ flexible connections, as at motor terminals, flexible metal conduit shall be used.

Class II—Installation

5054. Wiring Methods. Wiring methods shall conform to the following:

a. Class II, Division 1. In Class II, Division 1 locations, wiring shall be in rigid metal conduit with threaded boxes and fittings.

1. Fittings and Boxes. Fittings and boxes shall be provided with threaded bosses for conduit connection, shall have close fitting covers, and shall have no openings (such as holes for attaching screws) through which sparks or burning material might escape. Fittings and boxes in which taps, joints or terminal connections are made, or which are used in locations where dusts are of an electrically-conducting nature shall be approved for Class II locations.

2. Flexible Connections. Where necessary to employ flexible connections, dust-tight flexible connectors, flexible metal conduit, or flexible cord approved for extra hard usage and provided with bushed fittings shall be used, except that where dusts are of an electrically-conducting nature, flexible metal conduit shall not be used, and flexible cords shall be provided with dust-tight seals at both ends. Where flexible connections are subject to oil or other corrosive conditions, the conductors shall be of a type approved for the condition. An additional conductor for grounding shall be provided in the flexible cord unless other acceptable means of grounding is provided.

b. Class II, Division 2. In Class II, Division 2 locations, wiring shall be in rigid metal conduit or electrical metallic tubing.

1. Fittings and Boxes. Fittings and boxes in which taps, joints or terminal connections are made shall (1) be provided with telescoping or close fitting covers, or other effective means to prevent the escape of sparks or burning material, and (2) shall have no openings (such as holes for attachment screws) through which, after installation, sparks or burning material might escape, or through which adjacent combustible material might be ignited.

2. Flexible Connections. Where flexible connections are necessary the provisions of sub-paragraph a-2 of section 5054 shall apply.

Class III—Installation

5073. Wiring Methods. Wiring methods shall conform to the following:

a. Class III, Division 1. In Class III, Division 1 locations, rigid metal conduit shall be the wiring method employed.

1. Boxes and Fittings. Fittings and boxes in which taps, joints or terminal connections are made shall (1) be provided with telescoping or close fitting covers, or other effective means to prevent the escape of sparks or burning material, and (2) shall have no openings (such as holes for attachment screws) through which, after installation, sparks or burning material might escape, or through which adjacent combustible material might be ignited.

2. Flexible Connections. Where flexible connections are necessary the provisions of sub-paragraph a-2 of section 5054 shall apply.

b. Class III, Division 2. In Class III, Division 2 locations, the wiring method shall conform to paragraph a of this section, except that in sections, compartments or areas used solely for storage and containing no machinery, open wiring on insulators may be employed if installed to conform to Article 320, but only on condition that protection as required by section 3212 be provided where conductors are not run in roof spaces, and well out of reach of sources of mechanical injury.

5074. Switches, Circuit-Breakers, Motor Controllers and Fuses, Class III, Divisions 1 and 2. Switches, circuit-breakers, motor controllers and fuses, including pushbuttons, relays and similar devices, shall be provided with tight metal enclosures which shall (1) be equipped with telescoping or close fitting covers, or with other effective means to prevent escape of sparks or burning material, and (2) have no openings (such as holes for attachment screws) through which, after installation, sparks or burning material might escape, or through which exterior accumulations of fibers or flyings or adjacent combustible material might be ignited.

ARTICLE 230—SERVICES

2338. Enclosing Raceways Made Raintight. If rigid metal raceways are installed where exposed to weather the raceways shall be made raintight and arranged to drain.

ARTICLE 730—OUTSIDE WIRING

7341. Raceways. Conduit and electrical metallic tubing on exterior of building shall be made raintight and suitably drained.

G-E RIGID CONDUIT

G-E WHITE CONDUIT

Hot-Dipped Galvanized

FEDERAL SPECIFICATIONS—WW-C-581a, May 7, 1935. **Conduit: Steel, Rigid, Zinc Coated.** G-E Hot-dipped Galvanized Conduit is approved under this specification.

G-E White hot-dipped galvanized conduit has a heavy coating of zinc over the entire length of interior and exterior surfaces. A Glyptal lacquer coating is added inside to provide a glassy, hard surface which makes wire pulling easier, and on the outer surface of the conduit.

G-E White can be bent with a minimum of effort. Installations are facilitated. Conduits are furnished in 10-foot lengths, with coupling on one end and thread protector on other.

G-E BLACK ENAMELED CONDUIT

FEDERAL SPECIFICATIONS—WW-C-571, June 6, 1933. **Conduit: Steel, Rigid, Enameled.** G-E Black Enameled Conduit is approved under this specification.

G-E Black conduit is treated inside and outside with a protective coating of tough black enamel, baked on at a high temperature. This smooth, hard surface permits easy wire pulling and makes an excellent base for painting.

CONDUIT						ELBOWS		COUPLINGS	
Size in Inches	Diameter in Inches		Feet per Bundle	Approx Weight Lb per M Foot	Threads per Inch	Std Pkg	Approx Weight Lb per 100	Std Pkg	Approx Weight Lb per 100
	External	Internal							
½	0.840	0 622	100	815	14	50	80	100	12
¾	1.050	0 824	50	1070	14	50	114	50	18
1	1.315	1.049	50	1640	11½	25	192	50	30
1¼	1.660	1.380	30	2170	11½	20	295	50	44
1½	1.900	1.610	10	2600	11½	15	405	50	52
2	2.375	2.067	10	3500	11½	10	690	50	84
2½	2.875	2.469	10	6000	8	..	1250	10	140
3	3.500	3.068	10	7700	8	..	2100	10	200
3½	4.000	3.548	10	9250	8	..	3100	10	260
4	4.500	4.026	10	11200	8	..	3600	10	310
5	5 563	5.047	10	15000	8	..	7620	..	830
6	6.625	6.065	10	20400	8	..	11500	..	1025

45°

90°

Size of Elbow in In.	STANDARD RADIUS, 90° ELBOWS — Dimensions in Inches				STANDARD RADIUS, 45° ELBOWS — Dimensions in Inches		
	A Radius	B	C Offset	D Tangent	A Radius	B	D Tangent
½	4	3 21/32	6 11/16	2 11/16	4	3 21/32	4 5/16
¾	4½	3 31/32	7 13/32	2 23/32	4½	3 31/32	4 47/64
1	5¾	5 3/32	8 27/64	2 43/64	5¾	5 3/32	5
1¼	7¼	6 27/64	9 7/8	2 5/8	7¼	6 27/64	3 25/32
1½	8¼	7 11/32	11 3/16	2 15/16	8¼	7 11/32	4 9/16
2	9½	8 5/16	13 25/32	4 9/32	9½	8 5/16	6 17/64
2½	10½	9 1/16	15¼	4¾	10½	9 1/16	5 1/8
3	13	11¼	19	6	13	11¼	7 1/64
3½	15	13	22 13/16	7 13/16	15	13	8 7/64
4	16	13¾	23	7	16	13¾	7 23/32
5	24	21 7/32	34 5/16	10 5/16	24	21 7/32	11 37/64
6	30	26 11/16	41 7/16	11 7/16	30	26 11/16	11 21/32

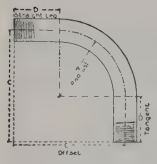
Weights and Dimensions are Nominal

Conduits, elbows, and couplings are ordered by their nominal internal diameters. Conduits are furnished in 10-foot lengths, with coupling on one end and thread protector on other.

G-E RIGID CONDUIT

SPECIAL LONG RADIUS 90-DEGREE ELBOWS

G-E WHITE AND G-E BLACK



Radius "A" in Inches	12	15	18	24	30	36	42	48
Size Conduit in Inches	Weight Each	Weight Each	Weight Each	Weight Each	Weight Each	Weight Each	Weight Each	Weight Each
1	5	6	7	8	9	11	12	13
1¼	7	8	9	11	13	14	17	19
1½	8	9	11	13	16	18	20	22
2	11	13	15	18	21	24	28	31
2½	17	20	23	29	33	38	43	48
3	..	27	30	37	44	49	57	63
3½	..	..	35	42	50	56	65	72
4	..	..	46	57	66	75	86	96
4½	..	..	..	66	77	88	101	112
5	..	..	..	..	89	101	116	129
6	..	..	..	..	..	134	155	172

CLOSE NIPPLES

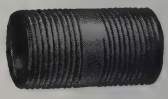
G-E White Conduit Only

METER SERVICE NIPPLES

G-E White or Black

SHORT NIPPLES

G-E White or Black



Size Conduit in In.	CLOSE			SHORT			2 in. Long		3 in. Long		4 in. Long		5 in. Long		6 in. Long		8 in. Long		10 in. Long		12 in. Long	
	Lgth.	Car- ton	Wt. per C	Lgth.	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C	Car- ton	Wt. per C
½	1⅛	50	7	1½	50	9	25	12	25	19	25	25	25	32	25	38	25	51	25	64	25	77
¾	1⅜	25	11	2	25	17	..	..	25	25	25	34	10	43	10	51	10	68	25	85	25	103
1	1½	25	19	2	25	25	..	..	10	38	10	51	10	63	10	76	10	102	10	127	10	153
1¼	1⅝	20	28	2½	5	43	..	..	5	51	5	69	5	86	5	103	5	138	5	172	1	207
1½	1¾	10	36	2½	5	51	..	..	5	52	5	82	5	103	5	124	5	165	1	206	1	248
2	2	5	55	2½	5	69	..	..	5	83	5	111	5	139	5	167	5	228	1	278	1	334
2½	2½	5	110	3	5	132	..	..	..	..	5	176	5	220	5	264	5	353	1	441	1	529
3	2⅝	5	151	3	5	173	..	..	..	..	5	231	5	288	5	346	5	462	1	577	1	692
3½	...	..	..	...	..	..	..	..	..	..	..	..	..	..	1	418	1	558	1	697	1	837

EVERDUR ELECTRICAL CONDUIT AND FITTINGS

The need for a more durable conduit for use in hazardous locations, or where exposed to corrosive conditions, led to the introduction, in 1933, of conduit made of Everdur Metal, The American Brass Company's high-strength copper-silicon alloy. Since its introduction, the acceptance of this material has resulted in an ever-increasing use of this non-ferrous Conduit which does not require surface coating or painting as protection against corrosion.

Everdur Electrical Conduit is available in both Rigid Conduit and Electrical Metallic Tube sizes labeled by the Underwriters' Laboratories, Inc., under their Factory Inspection and Label Service Procedure. Both types of Everdur Conduit are seamless, immune to rust and offer exceptional resistance to a wide variety of corroding agents.

Everdur Metal possesses great strength and toughness, and has high resistance to fatigue.

EVERDUR RIGID CONDUIT

Everdur Rigid Conduit is supplied in nominal sizes from ¼- to 4-inch diameters inclusive. Unless otherwise specified, Rigid Conduit will be furnished with both ends taper-threaded and in 10-foot nominal lengths which include a coupling attached to one end. The other end is covered with a thread protector.

Dimensions and Weights
Everdur Seamless Rigid Conduit

Nom. Size. In.	Dimensions O.D. Inches	Dimensions I.D. Inches	Dimensions Wall Inches	Weight Lbs. per Nominal 10 Ft. Lgth.
¼	.540	.382	.079	4.381
⅜	.675	.503	.086	6.086
½	.840	.636	.102	9.075
¾	1.050	.834	.108	12.27
1	1.315	1.075	.120	17.32
1¼	1.660	1.382	.139	25.50
1½	1.900	1.614	.143	30.35
2	2.375	2.077	.149	40.12
2½	2.875	2.519	.178	58.18
3	3.500	3.084	.208	83.05
3½	4.000	3.548	.226	103.5
4	4.500	4.026	.237	122.3

Variations from these dimensions and weights must be expected in practice.

EVERDUR ELECTRICAL METALLIC TUBING

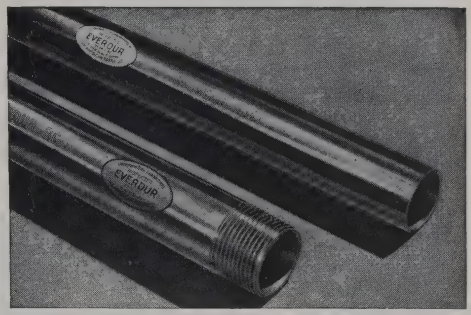
Everdur E.M.T. has thinner walls and weighs correspondingly less than Rigid Conduit. It is available in standard 10-ft. lengths in nominal sizes from ⅜- to 2-inch diameters inclusive.

Dimensions and Weights
Everdur Seamless E.M.T. Conduit

Nom. Size. In.	Dimensions O.D. Inches	Dimensions I.D. Inches	Dimensions Wall Inches	Weights Lb. per Foot
⅜	.577	.493	.042	.2677
½	.706	.622	.042	.3322
¾	.922	.824	.049	.5096
1	1.163	1.049	.057	.7510
1¼	1.510	1.380	.065	1.119
1½	1.740	1.610	.065	1.297
2	2.197	2.067	.065	1.651

Variations from these dimensions and weights must be expected in practice.

"Everdur" is a trade-mark of the American Brass Company registered in U.S. Patent Office.



EVERDUR SEAMLESS COUPLINGS

For Assembling Everdur Rigid Conduit

Everdur Seamless Couplings in sizes for ¼ to 4 inches inclusive are available for assembling Everdur Rigid Conduit. These couplings have tapered threads which insure five thread engagement and result in stronger and tighter joints than can be secured with the usual straight threaded conduit coupling of other metals.

SEAMLESS EVERDUR ELBOWS

For E.M.T. and Rigid Conduit

Standard 45° and 90° Elbows, also Elbows of special radius, are available in Everdur E.M.T. or Rigid Conduit in sizes of ½ inch and larger.

EVERDUR SEAMLESS RACEWAYS

Special sizes in larger diameters with wall thicknesses comparable to Everdur Electrical Metallic Tubing are available up to 4-inch nominal sizes, in random lengths of 10 to 14 feet. They are not listed with Underwriters', but are specified as Everdur Seamless Raceways.

ELECTRICAL CHARACTERISTICS

Single-conductor cables in power circuits, carrying 50-60 cycle a-c current, can be safely housed in Everdur Conduit. If installed in steel conduit, excessive heat losses are quickly introduced under appreciable loads and the temperature rise may be sufficient to destroy the cable insulation. Even for two and three conductor cables in balanced a-c circuits, operation is improved by using Everdur Conduit because of the cable's presence in a non-magnetic field.

INSTALLATION

The ease with which Everdur Electrical Conduit can be installed in the field, together with its permanently smooth and non-rusting interior — an aid in wire drawing not only when the tube is new but indefinitely thereafter, are additional advantages of non-rust conduit.

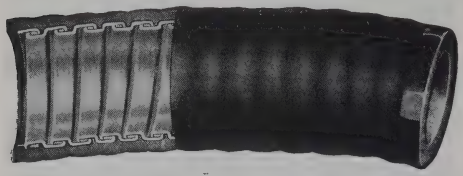
EVERDUR FITTINGS

Everdur fittings (locknuts, bushings, nipples, Condulets, etc.) are available. Prices on request.

Anaconda Publication E-12 includes detailed information on Everdur Conduit and is available on request.

AMERICAN SEALTITE CONDUIT

For Use with Threadless Rigid Conduit Fittings



Sealtite Electrical Conduit manufactured by the American Metal Hose Branch of The American Brass Company is a flexible liquid-tight conduit designed to protect wiring on any type of machine or electrical unit where wiring is endangered by moisture, oils, vapors, abrasion, acids, etc.

The lining of Standard Sealtite is galvanized steel flexible tubing. A synthetic jacket is extruded over the lining to make a moisture and oil-proof conduit which is bendable to small radii.

Standard Sealtite is available in long lengths to be cut and assembled "on the job" — an obvious advantage to the user because long lengths mean less scrap.

Foolproof grounding bushings, used to assure ground contact between the metal lining and the fittings, are packaged separately in standard quantities. Fittings for Standard Sealtite are the same as used ordinarily with standard rigid electrical conduit and are purchased separately.

Nom. I.D. Elec. Conduit	Actual I.D. Inches Min.	Max.	Outside Diam. Inches Min.	Max.	Approx. Bend Diam. Inches	Wt. Lbs. Per Foot
⅜	.484–	.504	.690	.710	8	.293
½	.622	.642	.820	.840	10	.380
¾	.820–	.840	1.030	1.050	15	.508
1	1.041–	1.066	1.290	1.315	18	.800
1¼	1.380–	1.410	1.630	1.660	21	1.135

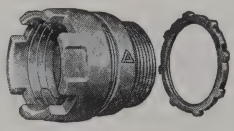
Commercial tolerances apply on above figures.

Data on larger sizes on application.

FITTINGS FOR SEALTITE CONDUIT

TYPE L NO-THREAD CONNECTORS

½ to 2-Inch



2½ to 4-Inch

Cat. No.	Size In.	Car-ton	Std. Pkg.	Cat. No.	Size In.	Car-ton	Std. Pkg.
CF-80N95	½	25	100	CF-80N90	2	1	5
CF-80N96	¾	10	40	CF-80N91	2½	1	5
CF-80N97	1	5	20	CF-80N92	3	1	5
CF-80N98	1¼	5	20	CF-80N93	3½	1	5
CF-80N99	1½	2	10	CF-80N94	4	1	5

G-E CONDUIT FITTINGS

For Rigid Conduit

Federal Specifications—W-F-406, August 27, 1937

LOCKNUTS

Listed by Underwriters' Laboratories, Inc.

SP141 - SP146

SP147 - SP153

Sizes ⅜ to 2 in. inclusive are stamped steel; all other sizes malleable iron.

Cat. No.	Size In.	Std Pkg	Cart. Qty	Wt Lbs Per 100
SP140	⅜	1000	100	1½
SP141	½	2500	100	1½
SP142	¾	1000	100	2½
SP143	1	500	50	4½
SP144	1¼	200	50	7
SP145	1½	100	50	9
SP146	2	50	25	7
SP147	2½	30	10	28
SP148	3	25	5	40
SP149	3½	25	5	44
SP150	4	25	5	48
SP152	5	10	2	90
SP153	6	10	2	100

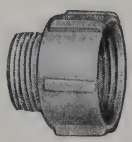
BUSHINGS

Listed by Underwriters' Laboratories, Inc.

All sizes malleable iron, except SP122 steel.

SP121-SP130

Cat. No.	Size In.	Std Pkg	Cart. Qty	Wt Lbs Per 100
SP121	⅜	1000	100	2
SP122	½	2500	100	2½
SP123	¾	1000	100	4
SP124	1	500	50	9
SP125	1¼	200	50	11
SP126	1½	100	50	11
SP127	2	50	25	22
SP128	2½	30	10	34
SP129	3	25	5	52
SP130	3½	25	5	80
SP131	4	25	5	104
SP133	5	10	2	170
SP134	6	10	2	250



SP1436

MALE CONDUIT ENLARGERS

Listed by Underwriters' Laboratories, Inc.

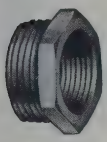
Malleable Iron

Cat. No.	Size In.	Std Pkg	Car-ton	Wt Lbs Per 100
SP1435	½ to ¾	100	25	9
SP1436	¾ to 1	50	25	16
SP1437	1 to 1¼	50	5	26
SP1438	1¼ to 1½	25	5	36

G-E CONDUIT FITTINGS

For Rigid Conduit

Federal Specifications—W-F-406, August 27, 1937



SP1426

REDUCERS

Listed by Underwriters' Laboratories, Inc.

Malleable Iron

Cat. No.	Size In.	Std Pkg	Carton	Wt Lbs Per 100
SP1425	¾ to ½	100	50	9
SP1426	1 to ¾	100	25	14
SP1427	1¼ to 1	50	25	22
SP1428	1½ to 1¼	50	25	22

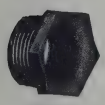
TUBELET REDUCERS

Listed by Underwriters' Laboratories, Inc.

Malleable Iron

SP3601-SP3615

Cat. No.	Size In.	Std Pkg	Carton	Wt Lbs Per 100
SP3601	¾ to ½	100	50	5
SP3602	1 to ½	50	25	14
SP3603	1 to ¾	50	25	18
SP3604	1¼ to ½	50	25	30
SP3605	1¼ to ¾	50	25	28
SP3606	1¼ to 1	50	25	16
SP3607	1½ to ½	50	25	42
SP3608	1½ to ¾	50	25	34
SP3609	1½ to 1	50	25	32
SP3610	1½ to 1¼	50	25	16
SP3611	2 to ½	25	10	76
SP3612	2 to ¾	25	10	72
SP3613	2 to 1	25	10	64
SP3614	2 to 1¼	25	10	52
SP3615	2 to 1½	25	10	40



SP840

CHASE NIPPLES

Listed by Underwriters' Laboratories, Inc.

Malleable Iron

Where a "Chase" Nipple and Coupling is used a box can be removed without disturbing the conduit. Where two outlet boxes are to be used back to back, a "Chase" Nipple and a Locknut will hold the boxes together.

Cat. No.	Size In.	Std Pkg	Carton	Wt Lbs Per 100
SP840	¼	1000	100	2
SP841	⅜	1000	100	3
SP842	½	500	100	4
SP843	¾	200	100	7
SP844	1	100	25	14
SP845	1¼	100	50	24
SP846	1½	50	10	28
SP847	2	50	5	50
SP848	2½	20	5	90
SP849	3	10	2	120
SP850	3½	5	2	160
SP851	4	5	2	200
SP853	5	5	2	260

G-E CONDUIT FITTINGS

For Rigid Conduit

Federal Specifications—W-F-406, August 27, 1937

INSULATING SLEEVES

Listed by Underwriters' Laboratories, Inc.

SP442-SP431

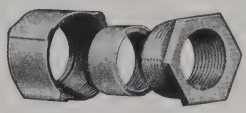
G-E Insulating Sleeves are for use in raceway outlets. Their overlapping ends adjust the sleeve to normal variations in conduit or cable diameters. Made of high-quality, durable laminated insulating material.

Cat. No.	Will Fit KO In.	Std Pkg Qty	Carton	Wt Lb Per 100
SP422	½	100	25	2
SP423	¾	100	25	2
SP424	1	100	25	2
SP425	1¼	40	20	2½
SP426	1½	40	20	2½
SP427	2	30	15	3½
SP428	2½	30	15	3½
SP429	3	25	5	8
SP430	3½	25	5	12
SP431	4	20	5	15

"ERICKSON" COUPLINGS (CONDUIT UNIONS)

Listed by Underwriters' Laboratories, Inc.

Malleable Iron



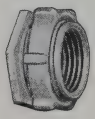
SP675

For joining conduit where it cannot be turned. Does away with running threads. Permits the opening of conduit runs at any desired joint. Vibration will not loosen connections made with an Erickson coupling.

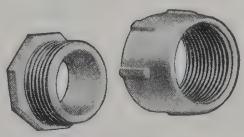
Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
SP675	½	100	50	24
SP676	¾	50	25	34
SP677	1	25	5	56
SP678	1¼	25	5	96
SP679	1½	25	5	112
SP680	2	20	5	175
SP681	2½	10	5	360
SP682	3	10	5	380
SP683	3½	5	2	500
SP684	4	5	2	580
SP686	5	2	1	1000

CONNECTORS

For Use with Multilets



SP1410

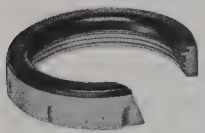


SP1420

These couplings make possible the use of boxes with ¾-in. KO throughout the job. For running ½-in. conduit into ¾-in. KO use SP1410; for ¾-in. conduit into ¾-in. KO use SP1420. Malleable iron.

Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
SP1410	½	100	25	10
SP1420	¾	100	25	16

O.Z. INSULATED BUSHINGS



Conduit Type

Set Screw Type

Designed to prevent disastrous grounds using bakelite as an insulator. The insulating material is molded and locked into the casting of high grade malleable iron. Made in two types as listed. All bushings are capped.

CONDUIT TYPE—TYPE "B"

Size In.	Dimensions Dia.	Dimensions Hght.	Std. Pkg.	Cadmium Plated Cat. No.	Cadmium Plated Price Each	Hot-Dipped Galvanized Cat. No.	Hot-Dipped Galvanized Price Each
½	1	½	100	B 50	$0.15	HB 50	$0.25
¾	1¼	9/16	50	B 75	.30	HB 75	.35
1	1 9/16	11/16	25	B100	.45	HB100	.50
1¼	1 7/8	¾	20	B125	.60	HB125	.75
1½	2⅛	¾	20	B150	.75	HB150	.90
2	2¾	¾	10	B200	1.05	HB200	1.25
2½	3¼	⅞	10	B250	1.45	HB250	1.75
3	3 1/8	1 5/16	5	B300	2.00	HB300	2.35
3½	4 7/16	1	5	B350	2.55	HB350	3.10
4	4 1/8	1 1/16	5	B400	3.30	HB400	3.95
4½	5 9/16	1 1/16	1	B450	4.75	HB450	5.70
5	6¼	1 1/16	1	B500	6.60	HB500	7.90
6	7 13/16	1⅜	1	B600	10.25	HB600	12.30
				Bronze			
½	1	½	100	RB 50	$0.30	.....	.....
¾	1¼	9/16	50	RB 75	.50	.....	.....
1	1 9/16	11/16	25	RB100	.65	.....	.....
1¼	1 7/8	¾	20	RB125	.90	.....	.....
1½	2⅛	¾	20	RB150	1.10	.....	.....
2	2¾	¾	10	RB200	2.00	.....	.....
2½	3¼	⅞	10	RB250	2.20	.....	.....
3	3 1/8	1 5/16	5	RB300	2.95	.....	.....
3½	4 7/16	1	5	RB350	3.90	.....	.....
4	4 1/8	1 1/16	5	RB400	5.00	.....	.....
4½	5 9/16	1 1/16	1	RB450	7.20	.....	.....
5	6¼	1 1/16	1	RB500	9.90	.....	.....
6	7 13/16	1⅜	1	RB600	15.40	.....	.....

SET SCREW TYPE—TYPE "SB"

Size In.	Dimensions Dia.	Dimensions Hght.	Std. Pkg.	Cadmium Plated Cat. No.	Cadmium Plated Price Each	Hot-Dipped Galvanized Cat. No.	Hot-Dipped Galvanized Price Each
½	1	½	100	SB 50	$0.30	HSB 50	$0.35
¾	1¼	9/16	50	SB 75	.45	HSB 75	.50
1	1 9/16	11/16	25	SB100	.65	HSB100	.75
1¼	1 7/8	¾	20	SB125	.80	HSB125	.95
1½	2⅛	¾	20	SB150	.95	HSB150	1.10
2	2¾	¾	10	SB200	1.25	HSB200	1.45
2½	3¼	⅞	10	SB250	1.75	HSB250	2.05
3	3 1/8	1 5/16	5	SB300	2.30	HSB300	2.65
3½	4 7/16	1	5	SB350	2.85	HSB350	3.40
4	4 1/8	1 1/16	5	SB400	3.60	HSB400	4.40
4½	5 9/16	1 1/16	1	SB450	5.15	HSB450	6.10
5	6¼	1 1/16	1	SB500	6.95	HSB500	8.30
6	7 13/16	1⅜	1	SB600	10.65	HSB600	12.70
				Bronze			
½	1	½	100	RSB 50	$0.45	.....	.....
¾	1¼	9/16	50	RSB 75	.65	.....	.....
1	1 9/16	11/16	25	RSB100	.90	.....	.....
1¼	1 7/8	¾	20	RSB125	1.10	.....	.....
1½	2⅛	¾	20	RSB150	1.30	.....	.....
2	2¾	¾	10	RSB200	2.20	.....	.....
2½	3¼	⅞	10	RSB250	2.50	.....	.....
3	3 1/8	1 5/16	5	RSB300	3.25	.....	.....
3½	4 7/16	1	5	RSB350	4.20	.....	.....
4	4 1/8	1 1/16	5	RSB400	5.30	.....	.....
4½	5 9/16	1 1/16	1	RSB450	7.55	.....	.....
5	6¼	1 1/16	1	RSB500	10.25	.....	.....
6	7 13/16	1¼	1	RSB600	15.75	.....	.....

O.Z. INSULATED BUSHINGS
FOR THIN WALL CONDUIT—TYPE "SBT"

For Thin Wall application (E.M.T.). Malleable Iron castings are used for this fitting. Case hardened cup point set screws securely fasten bushing to conduit.

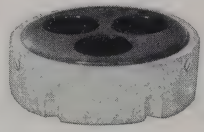
Cat. No.	Conduit Size	Diameter Inches	Height Inches	Std. Pkg.	Price Each
SBT 50	½	1	½	100	$0.30
SBT 75	¾	1¼	9/16	50	.45
SBT100	1	1 9/16	11/16	25	.65
SBT125	1¼	1 7/8	¾	20	.80
SBT150	1½	2⅛	¾	20	.95
SBT200	2	2¾	¾	10	1.25

INSULATING BUSHINGS — TYPE "BB"

A Molded Canvas Bakelite male bushing for insulating cables passing through metal boxes or troughs.

Conduit Size Inches	Std. Pkg.	Cat. No.	Net Price per 100 Less than Std.Pkg.	Net Price per 100 Std.Pkg.	Wt. Lbs. Per 100
½	100	BB 50	$16.00	$13.00	1.2
¾	100	BB 75	20.00	16.00	2.2
1	100	BB100	26.00	21.00	3.1
1¼	50	BB125	32.00	25.00	5.3
1½	50	BB150	40.00	32.00	7.0
2	50	BB200	49.00	39.00	11.0
2½	20	BB250	84.00	67.00	19.0
3	20	BB300	123.00	98.00	23.0
3½	10	BB350	134.00	107.00	27.0
4	10	BB400	191.00	153.00	30.0
5	5	BB500	321.00	257.00	35.0
6	5	BB600	351.00	281.00	45.0

O.Z. END FITTINGS
CONDUIT TYPE—WITH COVER



A compact fitting designed for use where space is limited and a neat appearance plus strength are required. Castings are of highest grade malleable iron and are cadmium plated. The covers are made of moulded canvas bakelite which is the strongest moulded insulating material known.

Where conditions are such that a snug fit is required around the cables, holes will be drilled to specification.

Set Screw Type fittings for threadless conduit may be had from stock. Can be supplied for thin wall conduit (E.M.T.) and fibre conduit on request at additional charge.

Cat. No.	Size In.	Dimens., In. Dia.	Dimens., In. Hght.	Complete with Cover Blank	Complete with Cover 1 to 4 Hole*	Complete with Cover 5 to 9 Hole*
E 50	½	1¼	⅞	$0.60	$0.60	$0.70
E 75	¾	1½	⅞	.80	.80	.90
E100	1	1 11/16	1 1/16	1.05	1.05	1.25
E125	1¼	2	1 1/16	1.35	1.35	1.65
E150	1½	2¼	1 1/16	2.00	2.00	2.35
E200	2	2 13/16	1½	3.05	3.05	3.45
E250	2½	3 7/16	1¼	5.20	5.20	6.00
E300	3	4	1¼	6.90	6.90	7.80
E350	3½	4¾	1 13/32	9.10	9.10	10.00
E400	4	5⅜	1 7/16	12.15	12.15	13.05
E450	4½	5½	1 7/16	15.60	15.60	16.60
E500	5	6⅜	1 13/32	20.80	20.80	21.80
E600	6	7⅜	1 13/32	26.00	26.00	27.00

*Holes accommodate maximum size cable according to code.

ADALET "SALI" INSULATING BUSHINGS

Type PE

PE with PEC Cover

THREADED TYPE—DEEP

Pipe Size	O.D. In.	Catalog Number	Height In.	Wt. Lbs. Per 100	Price Per 100
⅜	⅞	PE-03	33/64	1	$15.60
½	1 7/64	PE-2	5/8	2	15.60
¾	1 5/16	PE-3	5/8	2½	18.00
1	1⅝	PE-4	41/64	3	26.40
1¼	2	PE-5	41/64	4½	39.60
1½	2¼	PE-6	41/64	5½	55.20
2	2¾	PE-8	41/64	8	62.40
2½	3¼	PE-10	1	12½	109.20
3	3⅞	PE-12	1 1/16	17½	134.40
3½	4⅜	PE-14	1 1/16	22	148.80
4	5	PE-16	1 1/16	25	232.80
4½	5½	PE-18	1 1/16	37½	249.60
5	6¼	PE-20	1⅛	55	360.00
6	7¼	PE-24	1⅛	68	372.00

Can be used with type PEC covers.

"SALI" COVERS FOR PIPE ENDS OR BUSHINGS

Blank Cover

3-Hole Cover

For use with deep type bushings at free pipe terminals to keep dust and foreign matter out of the conduits. Can be furnished with two or three holes, the two-hole covers being the same price as the three-hole covers, see below.

Blank Covers

Pipe Size In.	Catalog Number	Cart. Quan.	Wt. Lbs. Per 100	Price Per 100
½	PEC- 20	50	½	$ 6.60
¾	PEC- 30	50	¾	7.80
1	PEC- 40	50	¾	9.00
1¼	PEC- 50	10	2	14.40
1½	PEC- 60	10	2½	16.80
2	PEC- 80	10	4	25.20
2½	PEC-100	5	5½	33.60
3	PEC-120	5	8½	44.40
3½	PEC-140	1	14¼	55.20
4	PEC-160	1	19	81.60
4½	PEC-180	1	23	94.80
5	PEC-200	1	34	110.40
6	PEC-240	1	60	147.60

Three-Hole Covers

½	PEC- 23	50	¼	$11.40
¾	PEC- 33	50	¼	13.80
1	PEC- 43	50	½	16.20
1¼	PEC- 53	10	1¼	25.20
1½	PEC- 63	10	1¼	30.00
2	PEC- 83	10	2	44.40
2½	PEC-103	5	3	58.80
3	PEC-123	5	4	78.00
3½	PEC-143	1	7	97.20
4	PEC-163	1	11	142.80
4½	PEC-183	1	15	166.80
5	PEC-203	1	25	193.20
6	PEC-243	1	40	258.00

ADALET "SALI" INSULATING BUSHINGS

PIPE ENDS OR INSULATING BUSHINGS

Listed by Underwriters' Laboratories

Type PES

Type SPE

Designed for use where space is limited, and neat appearance and strength are required. Recommended for use on all conduits terminating at switchboards, control boards, power cabinets, pull boxes, safety switches, motor starters, controllers, cranes and other devices where high insulation must be combined with strength.

Especially on installations where vibration causes the insulation on the cable to break down, we urge the use of Sali bushings to prevent serious grounds on the wiring system at the point where the cable enters the conduit.

Where covers are required, Type PE or PET must be used. Recommended for pull boxes, switch boxes, light and power cabinets and all free pipe terminals that do not require cover plates.

THREADED TYPE—SHALLOW

Cat. No.	Pipe Size In.	O.D. In.	Height In.	Cart. Quan.	Weight Per 100	Price Per 100
PES-03	⅜	⅞	13/32	50	¾	$10.80
PES-2	½	1 7/64	13/32	25	1½	10.80
PES-3	¾	1 5/16	13/32	25	1¾	13.20
PES-4	1	1⅝	13/32	25	3	20.40
PES-5	1¼	2	13/32	25	3¾	30.00
PES-6	1½	2¼	13/32	25	4½	45.60
PES-8	2	2¾	13/32	10	7½	51.60
PES-10	2½	3¼	¾	5	10	85.20
PES-12	3	3⅞	13/16	5	16¼	106.80
PES-14	3½	4⅜	13/16	2	19	120.00
PES-16	4	5	13/16	1	23½	192.00
PES-18	4½	5½	13/16	1	31¼	219.60
PES-20	5	6¼	⅞	1	43¾	302.40
PES-24	6	7¼	⅞	1	56¼	318.00

SET SCREW TYPE FOR RIGID CONDUIT

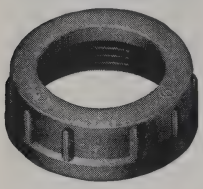
PET-2	½	1 7/64	5/8	25	2	$30.00
PET-3	¾	1 5/16	5/8	25	2½	34.80
PET-4	1	1⅝	41/64	25	3¾	42.00
PET-5	1¼	2	41/64	10	5½	57.60
PET-6	1½	2¼	41/64	10	6¼	69.60
PET-8	2	2¾	41/64	10	8	76.80
PET-10	2½	3¼	1	5	12½	127.20
PET-12	3	3⅞	1 1/16	5	16¼	153.60
PET-14	3½	4⅜	1 1/16	2	18¾	171.60
PET-16	4	5	1 1/16	2	22	224.40
PET-18	4½	5½	1 1/16	1	37½	234.00
PET-20	5	6¼	1⅛	1	43¾	360.00
PET-24	6	7¼	1⅛	1	56¼	480.00

SET SCREW TYPE FOR E.M.T.

SPE-2	½	1 7/64	5/8	25	2¼	$30.00
SPE-3	¾	1 5/16	5/8	25	3	34.80
SPE-4	1	1⅝	41/64	25	4½	42.00
SPE-5	1¼	2	41/64	10	5½	57.60
SPE-6	1½	2¼	41/64	10	7½	69.60
SPE-8	2	2¾	41/64	10	9¼	76.80

ADALET INSULATING BUSHINGS

PRECISION MOLDED INSULATING BUSHINGS



Type AM

Can be used with type PEC cover.

High strength — high dielectric. Listed by Underwriters. Fulfills National Electrical Code requirements. Reinforced bakelite. NEMA standard threads.

Pipe Size	Catalog Number	Std. Pkg.	Cart. Quan.	Wt. Lbs. Per 100	Price Per 100
½	AM2	400	100	1	$ 5.06
¾	AM3	400	100	1½	6.33
1	AM4	200	50	2½	10.12
1¼	AM5	100	25	4	26.50
1½	AM6	100	25	6	30.00
2	AM8	60	15	8	36.00
2½	AM10	20	5	13	58.50
3	AM12	20	5	16	64.00
3½	AM14	5	5	20	80.00
4	AM16	5	5	23	96.00
5	AM20	2	2	27	210.00
6	AM24	2	2	43	400.00

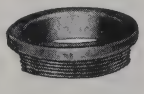
T & B INSULATING BUSHINGS

Approved by Underwriters' Laboratories

These Bushings protect wires from abrasion and shorts where they emerge from conduit.

Deep Type

Shallow Type



Male Type*

Conduit Size Inches	Std. Pkg. Qty.	Deep Type Cat. No.	Deep Type Price Per 100	Shallow Type Cat. No.	Shallow Type Price Per 100	Male Type* Cat. No.	Male Type* Price Per 100
⅜	100	....	----------	....	----------	83M	$27.50
½	100	70D	$22.50	70S	$16.50	70M	27.50
¾	100	71D	27.50	71S	22.50	71M	33.75
1	100	72D	37.50	72S	33.75	72M	43.75
1¼	50	73D	60.00	73S	50.00	73M	76.50
1½	50	74D	71.50	74S	57.50	74M	85.00
2	50	75D	96.50	75S	85.00	75M	120.00
2½	25	76D	188.00	76S	171.00	76M	210.00
3	25	77D	200.00	77S	181.00	77M	221.00
3½	10	78D	250.00	78S	210.00	....	----------
4	5	79D	335.00	79S	230.00	....	----------

*No locknut.

T & B INSULATED METALLIC BUSHINGS

Approved by Underwriters' Laboratories

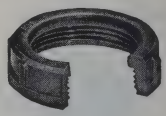
Insulated Metallic Bushings line the ends of conduits and prevent cable abrasion and accidental grounds. Insulator is moisture proof paper base pheonlic thoroughly impregnated with tough insulating varnish.

Cat. No.	Size	Unit Quan.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
575	½	50	100	3	$19.20
576	¾	25	50	6	30.50
577	1	5	20	10	44.75
578	1¼	5	20	10	62.50
579	1½	5	20	15	80.00
580	2	5	10	20	106.00
581	2½	5	10	20	170.00
582	3	1	5	60	----------
583	3½	1	5	60	----------
584	4	1	5	60	----------
586	5	....	1	100	----------
587	6	....	1	100	----------

O. Z. INSULATING BUSHINGS

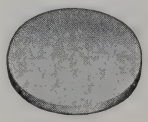
ALL BAKELITE INSULATING BUSHINGS

CONDUIT TYPE "A"



Conduit Size In.	Std. Ctn.	Std. Pkg.	Cat. No.	Net Price per 100 Less than Std. Ctn.	Net Price per 100 Std. Ctn.	Net Price per 100 Std. Pkg.	Wt. Lbs. per 100
½	100	400	A50	$ 7.20	$ 5.60	$ 4.50	1.3
¾	100	400	A75	8.80	6.85	5.50	1.8
1	50	200	A100	13.20	10.30	8.25	3.5
1¼	25	100	A125	26.50	20.30	16.25	6.0
1½	25	100	A150	30.00	23.40	18.75	7.0
2	20	40	A200	36.00	28.10	22.50	10.5
2½	20	20	A250	58.50	.....	36.50	14.4
3	10	10	A300	64.00	.....	40.00	19.0
3½	10	10	A350	80.00	.....	50.00	25.0
4	10	10	A400	96.00	.....	60.00	28.0
5	5	5	A500	210.00	.....	130.00	48.0
6	2	2	A600	400.00	.....	250.00	63.0

CONDUIT PENNIES



Used with conduit bushings to seal up the conduit during construction. Keeps raceways clean until ready to fish in wires.

Cat. No.	Size In.	Carton	Std. Pkg.	Wt. Lbs. Per 1000
180	½	500	1000	4
181	¾	250	500	7
182	1	125	250	12
183	1¼	125	250	18
184	1½	50	100	32
185	2	50	100	36
186	2½	50	100	59
187	3	50	100	92
188	3½	25	50	125
189	4	25	50	170

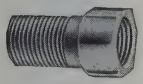
G-E CONDUIT FITTINGS

For Rigid Conduit and BX Cable

Federal Specifications—W-F-406, August 27, 1937

PANEL BOX ADAPTERS

Listed by Underwriters' Laboratories, Inc.



SP7139

Recommended for use where a very short extension of the conduit is needed. Also used for converting connectors into a panel box connector. Malleable iron.

Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
SP7139	½	50	25	14
SP7140	¾	50	25	18
SP7151	1	25	10	28
SP7152	1¼	25	10	32
SP7153	1½	25	10	48
SP7154	2	10	5	70
SP7155	2½	10	5	90

90° ANGLE ADAPTERS

Listed by Underwriters' Laboratories, Inc.

Malleable Iron

These 90° angle adapters will be found useful where a short bend with conduit cannot be made. Also used for converting any straight connector into 90° angle connector.

SP7142

Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
SP7142	½	50	25	20
SP7143	¾	50	25	30
SP7144	1	25	10	56
SP7145	1¼	25	10	92
SP7146	1½	25	10	108
SP7147	2	10	5	190
SP7148	2½	5	1	280
SP7149	3	5	1	360

COUPLINGS

Listed by Underwriters' Laboratories, Inc.

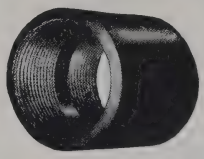
SP6072 - SP6179

SP6072-SP6179 couplings are for joining one length of single-strip flexible conduit with the same size of rigid conduit. Malleable iron.

Cat. No.	Size, Inches	Std Pkg	Carton	Weight Per 100
SP6072	½	50	10	26
SP6173	¾	50	10	30
SP6174	1	25	5	52
SP6175	1¼	25	5	72
SP6176	1½	25	5	112
SP6177	2	10	5	300
SP6178	2½	10	5	320
SP6179	3	5	2	400

O. Z. CONDUIT FITTINGS

INSULATING COUPLINGS — TYPES "ICC" AND "ICP"



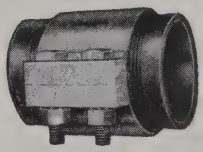
Type "ICC"—Laminated Canvas Bakelite.
Type "ICP"—Laminated Paper Bakelite.
Use: To prevent butting of conduit and break metallic path.

Net Price Each

Conduit Size Inches	Std. Pkg.	Type ICP Cat. No.	Type ICP Less Std. Pkg.	Type ICP Std. Pkg.	Type ICC Cat. No.	Type ICC Less Std. Pkg.	Type ICC Std. Pkg.
½	25	ICP50	$0.48	$0.40	ICC50	$1.08	$0.90
¾	25	ICP75	.60	.50	ICC75	1.32	1.10
1	25	ICP100	.84	.70	ICC100	1.86	1.55
1¼	10	ICP125	1.02	.85	ICC125	2.22	1.85
1½	10	ICP150	1.20	1.00	ICC150	2.64	2.20
2	10	ICP200	1.68	1.40	ICC200	3.36	2.80
2½	5	ICP250	3.60	3.00	ICC250	6.00	5.00
3	5	ICP300	4.56	3.80	ICC300	7.80	6.50
3½	1	ICP350	5.52	4.60	ICC350	9.60	8.00
4	1	ICP400	7.20	6.00	ICC400	12.00	10.00

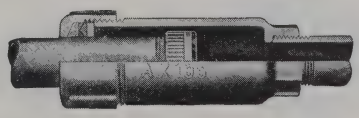
SPLIT COUPLINGS

This split malleable iron coupling eliminates use of a running thread. The coupling is so constructed that it will slip over the conduit when in an open position to permit butting of ends of the conduit. Cadmium plated.



Cat. No.	Conduit Size	Price Each	Cat. No.	Conduit Size	Price Each
SP50	½	$1.45	SP250	2½	$4.05
SP75	¾	1.60	SP300	3	5.50
SP100	1	1.75	SP350	3½	7.35
SP125	1¼	2.00	SP400	4	9.55
SP150	1½	2.20	SP450	4½	14.65
SP200	2	2.70	SP500	5	22.00

EXPANSION FITTINGS



Designed to compensate for expansion and contraction in a line of conduit. Prices include insulated bushings. Standard finish is cadmium plated. Can be furnished Hot-Dip galvanized. Types "EX" and "EXE" for heavy wall conduit and Type "TX" for thin wall conduit also available.

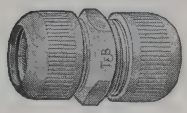
Cat. No.	Conduit Size	Price Each	Cat. No.	Conduit Size	Price Each
AX 50	½	$2.95	AX150	1½	$7.70
AX 75	¾	3.50	AX200	2	11.00
AX100	1	4.40	AX250	2½	16.15
AX125	1¼	5.50	AX300	3	22.00

T & B CONDUIT FITTINGS

THREADLESS COUPLINGS AND CONNECTORS

For Heavy Wall Conduit

Approved by Underwriters' Laboratories



Coupling

Connector

For standard rigid conduit. Easy to tighten; made ready with fingers — then a turn with a wrench and the connection is permanent. Made of malleable iron and steel.

Couplings

Cat. No.	Size Inches	Unit Pkg.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
8120	½	50	100	22	**$ 65.50**
8220	¾	25	50	32	**96.00**
8320	1	5	25	52	**155.00**
8420	1¼	5	25	112	**232.00**
8520	1	2	10	150	**286.00**
8620	2	1	5	480	----------
8720	2½	1	5	480	----------
8820	3	1	5	700	----------
8850	3½	1	5	800	----------
8970	4	1	5	900	----------

Connectors

8121	½	25	100	17	**43.25**
8221	¾	25	50	26	**70.50**
8321	1	5	25	44	**93.00**
8421	1¼	5	25	84	**170.00**
8521	1½	2	10	110	**235.00**
8621	2	1	5	180	----------
8721	2½	1	5	360	----------
8821	3	1	5	500	----------
8851	3½	1	5	600	----------
8971	4	1	5	630	----------

G-E CONDUIT FITTINGS

INSULETS

Listed by Underwriters' Laboratories, Inc.

Can be used at the termination of the conduit to wire motors, appliances, or open wiring. Malleable iron bodies.

SP1660
Straight Insulet

SP1610-SP1613
Straight Insulet

SP1640-SP1643
Angle Insulet

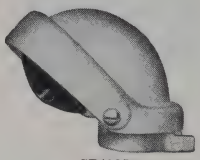
Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
		Straight Type		
SP1660	½	100	25	11
SP1610	½	100	25	18
SP1611	¾	100	25	22
SP1612	1	50	5	44
SP1613	1¼	25	5	96
		Angle Type		
SP1640	½	50	5	38
SP1641	¾	50	5	56
SP1642	1	30	6	100
SP1643	1¼	25	5	143

G-E ENTRANCE FITTINGS

For Rigid Conduit

Federal Specifications — W-F-406, August 27, 1937

ENTRANCE CAPS



SP1525

Listed by Underwriters' Laboratories, Inc.

Prevent water from entering conduit.

Heavy composition insulators.

AL denotes aluminum; all others cast iron excepting SP1533 and SP1534 which have malleable iron bodies and aluminum caps.

Cast Iron Cat. No.	Cast Iron Wt Lb Per 100	Aluminum Cat. No.	Aluminum Wt Lb Per 100	Size In. No. Holes	Std Pkg	Carton
SP1525	68	**SP1525-AL**	30	½- 4	50	10
SP1526	84	**SP1526-AL**	32	¾- 5	50	5
SP1527	136	**SP1527-AL**	48	1 - 5	25	5
SP1528	220	**SP1528-AL**	50	1¼-5, 7	10	1
SP1529	240	**SP1529-AL**	90	1½- 6	5	1
SP1530	1200	**SP1530-AL**	....	2 - 6	5	1
SP1531	1600	**SP1531-AL**	60	2½- 4	1	1
SP1532	2900	**SP1532-AL**	.....	3 - 6	1	1
SP1533	2800	----------	....	3½- 6	1	1
SP1534	2800	----------	....	4 - 6	1	1

ENTRANCE ELLS

Listed by Underwriters' Laboratories, Inc.

SP1490-SP1497

These entrance ells fit snugly against the wall. They have no hub to countersink and only one screw to tighten.

Body, cast iron. ½, ¾ and 1-inch covers, steel; all others cast iron.

Cat. No.	Size In.	Std Pkg	Carton Qty	Wt Lb Per 100
SP1490	½	50	5	76
SP1491	¾	50	5	88
SP1492	1	25	5	136
SP1493	1¼	10	5	260
SP1494	1½	5	1	360
SP1495	2	1	1	520
SP1496	2½	1	1	400
SP1497	3	1	1	1200

CAPPED ELBOWS

Listed by Underwriters' Laboratories, Inc.

SP1480

Eliminate short links and facilitate pulling in conductors.

All openings are well bushed to protect conductors. Cast iron.

Cat. No.	Size In.	Std Pkg	Carton Qty	Wt Lb Per 100
SP1480	½	50	10	46
SP1481	¾	50	5	62
SP1482	1	25	5	64
SP1483	1¼	10	5	200
SP1484	1½	5	2	320

G-E FIXTURE STUDS AND EXTENSIONS

FIXTURE STUDS—SLIP-IN TYPE

Listed by Underwriters' Laboratories, Inc.

SP1601

To install, back out locknut and saddle, slip base into KO, slip prongs into nail holes and tighten locknut. Slips easily into ½ inch KO from inside of box. Malleable iron body — steel locknut and saddle.

Cat. No.	Size In.	Description	Std Pkg	Carton	Wt Lb Per 100
SP1600	⅜	For concrete work	500	100	8
SP1601	⅜	Open stem type	500	100	7

FIXTURE EXTENSIONS

Open type, smooth internal hole. Have clean, sharp threads for easy installation. High ribs permit good grip. Malleable Iron.

SP1511

Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
SP1510	⅜	1000	500	3
SP1511	½	1000	500	5½
SP1512	¾	1000	500	7½

FIXTURE STUDS—FOUR-PRONG TYPE

Listed by Underwriters' Laboratories, Inc.

SP6198

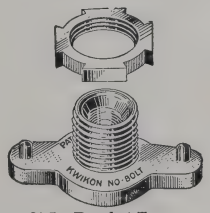
Prongs have extra long slots for adjustment. Supplied without bolts and nuts — order separately. Malleable iron.

Cat. No.	Size In.	Std Pkg	Carton	Wt Lb Per 100
SP6198	⅜	1000	100	8
SP6200	Bolts and nuts	1000	100	1

KWIKON NO-BOLT STUDS

As the name implies, the "No-Bolt" Stud is used without bolts — simply slip the stud in place from the back of the box, run up the clamping nut and it's done.

No-Bolt Studs provide a substantial support and take up little room in the box.



⅜ In. Bracket Type
Tapped for ⅛ In. Pipe

Cadmium Finish

Cat. No.	Description	Carton	Std. Case	Wt.Lbs. Std.Cs.	Price Per 100
358	⅜ In. Bracket Type	100	500	40	**$5.00**
359	½ In. Bracket Type	100	500	51	**6.50**
368	⅜ In. Closed Type	100	500	43	**6.50**
369	½ In. Closed Type	100	500	54	**7.50**

G-E FITTINGS

For Rigid Conduit

Federal Specifications — W-F-406, August 27, 1937

PIPE STRAPS

Listed by Underwriters' Laboratories, Inc.

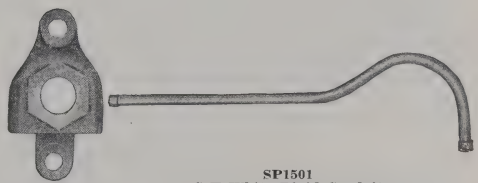
SP1275

Designed to fit the pipe snugly. Conduit sizes marked on strap. Malleable iron.

Cat. No.	Size In.	Std Pkg	Carton Qty	Wt Lb Per 100
SP1275	⅜	500	100	5
SP1276	½	500	100	7
SP1277	¾	500	50	9
SP1278	1	100	50	15
SP1279	1¼	100	25	22
SP1280	1½	50	25	28
SP1281	2	25	10	80
SP1282	2½	25	10	116
SP1283	3	25	10	136
SP1284	3½	10	5	200
SP1285	4	10	5	260
SP1287	5	5	2	500

GOOSENECKS AND PLATES

Listed by Underwriters' Laboratories, Inc.



SP1504
Malleable Iron

SP1501
G-E White Rigid Conduit

Goosenecks made from standard G-E White, hot-dipped, Glyptal - lacquer - coated conduit. Wall plates of malleable iron.

G-E White Gooseneck

Cat. No.	Size In.	Std Pkg	Carton Qty	Wt Lb Per 100
SP1500	½ x 16	10	1	150
SP1501	½ x 30	10	1	235
SP1502	¾ x 40	10	1	385
SP1503	¾ x 48	10	1	460

Gooseneck Plate

SP1504	½	10	5	44
SP1505	¾	10	5	43

ELECTRICAL METALLIC TUBING

Excerpts from National Electrical Code (1951 Edition)

ARTICLE 348

3481. Installations of electrical metallic tubing shall comply with the provisions of sections 3001 to 3020 inclusive and in addition shall comply with the provisions of the following sections 3482 to 3490 inclusive.

3482. Use. Electrical metallic tubing may be used for both exposed and concealed work. Electrical metallic tubing protected from corrosion solely by enamel shall not be used. Electrical metallic tubing shall not be used (1) where during installation or afterwards, it will be subject to severe mechanical injury; (2) in cinder concrete or fill where subject to permanent moisture unless protected on all sides by a layer of non-cinder concrete at least 2 inches thick or unless the tubing is at least 18 inches under the fill; (3) in any hazardous locations except as otherwise provided in Article 500; (4) where exposed to corrosive vapor except as premitted in section 3483.

3483. Corrosive Fumes. If tubing is exposed to corrosive fumes or vapors such as may exist in meat-packing plants, tanneries, hide cellars, casing rooms, glue houses, fertilizer rooms, salt storage, some chemical works, metal refineries, pulp mills, sugar mills, round houses, some stables, and similar locations, tubing and fittings of corrosion-resistant material suitable for the conditions shall be used. If practicable, the use of dissimilar metals throughout the system shall be avoided to eliminate the possibility of galvanic action.

3484. Wet Locations. In portions of dairies, laundries, canneries, and other wet locations, and in locations where walls are frequently washed, the entire tubing system, including all boxes and fittings used therewith, shall be so installed and equipped as to prevent water from entering the tubing, and the tubing shall be mounted so that there is at least one-quarter inch air space between the tubing and the wall or other supporting surface.

3485. Minimum and Maximum Sizes. No tubing smaller than ½-inch electrical trade size, shall be used except as provided for underplaster extensions in Article 344 and for enclosing the leads of motors as permitted in section 4439. The maximum size of tubing shall be the 2-inch electrical trade size.

3486. Number of Conductors in Raceway. One tubing shall not contain more conductors of a given size than are specified in Tables 4 to 11 of Chapter 10.

3487. Threads. Tubing shall not be coupled together nor connected to boxes, fittings or cabinets, by means of threads in the wall of the tubing, except by fittings approved for the purpose. Threads shall not be of the standard pipe thread dimensions.

3488. Couplings and Connectors. Threadless couplings and connectors used with tubing shall be made up tight, and if to be buried in masonry, concrete, or fill, or if installed in wet places shall be of a type to prevent water from entering the raceway.

3489. Bends—How Made. Bends in the tubing shall be so made that the tubing will not be injured and that the internal diameter of the tubing will not be effectively reduced. The radius of the curve of the inner edge of any field bend shall not be less than shown in the table in section 3470.

3490. Bends—Number in One Run. A run of electrical metallic tubing between outlet and outlet, between fitting and fitting, or between outlet and fitting, shall not contain more than the equivalent of four quarter bends (360 degrees, total), including those bends located immediately at the outlet or fitting.

Elevators. Electrical Metallic tubing may be used in elevator hoistways and on the car. See section 6206.

93481. General. Electrical metallic tubing shall conform to the following:

a. Cross Section. The tubing, and elbows and bends for use with the tubing, shall have a circular cross-section.

b. Finish. Tubing shall have such a finish or treatment of outer surfaces as will provide an approved permanent means of readily distinguishing it, when installed, from rigid conduit.

c. Connectors. When the tubing is coupled together by threads, the connector shall be so designed as to prevent bending of the tubing at any part of the thread.

WATER-TIGHT COUPLINGS AND CONNECTORS

All electrogalvanized couplings and connectors are furnished with slotted steel compression rings and brass sealing rings which insure a water-tight connection for all sizes. A pipe stop in the center lines up the tubing while the fittings themselves may be partially tightened by hand. The brass sealing ring is so designed that it not only makes the connection watertight but as the outer nut is tightened, it forces the slotted steel compression ring to grip the tubing tightly.

These fittings are designed to be universal in use. They will make a water-tight job that can be used in a non-water-tight installation at no increase in cost.

All E.M.T. fittings are approved by the Underwriters and have to meet the following tests:

Vibration: Fittings attached to the tubing are vibrated for 72 hours in a vibrating machine. A potential is connected to the tubing and the drop in potential is measured across the fitting before and after the vibration test. Any loosening of the fitting would show up as an appreciable increase in resistance of the joint.

Pull-out: Couplings must stand a pull-out test of:—

400 lbs. for ½-in. coupling.
700 lbs. for ¾-in. coupling.
900 lbs. for 1-in. coupling.
1100 lbs. for 1¼-inch coupling.
1300 lbs. for 1½-in. coupling.
1700 lbs. for 2-in. coupling.

Water Tightness: Samples connected to the tubing are immersed in about 12 in. of water for 7 days. After removal from the water the joint must not show leakage.

G-E ELECTRICAL METALLIC TUBING

G-E Electrical Metallic Tubing is a thin-wall, lightweight, rigid raceway, manufactured from open hearth steel. It is electro-galvanized on the outside and black enameled on the inside.

It is cold-formed into tubing and for this reason bends easily and accurately into any predetermined shape.

Threadless fittings of the compression type are used with this material since the thin wall of the tubing makes the cutting of threads impracticable.

EMT performs the same functions as Rigid Conduit in a wiring system at a slightly lower material cost but it does not offer quite the same degree of protection against mechanical injury and corrosive action of water and chemicals.

The National Electrical Code imposes certain restrictions on the use of the tubing. Meets Underwriters' Laboratories requirements.

EMT is furnished in 10 ft lengths in sizes ⅜ in. to 2 in. inclusive. Couplings must be ordered separately.

Federal Specifications — W-W-T-806a, January 8, 1935. Tubing, Electrical, Metallic. G-E EMT is approved under this specification.

Size in In.	Approx. Weight per 1000 Ft.	DIAMETER IN INCHES		Wall Thickness in In.	Feet per Bundle
		Internal	External		
⅜	230	0.493	0.577	0.042	200
½	285	0.622	0.706	0.042	100
¾	435	0.824	0.922	0.049	100
1	640	1.049	1.163	0.057	100
1¼	950	1.380	1.510	0.065	50
1½	1100	1.610	1.740	0.065	50
2	1400	2.067	2.197	0.065	30

RECOMMENDED FITTINGS FOR EMT

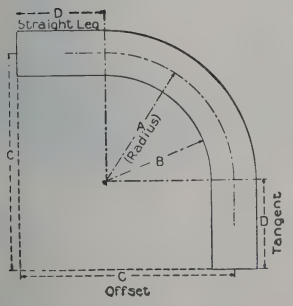
Size EMT	Raintight Couplings	Raintight Connectors	90° Angle Connectors	Entrance Ells	Entrance Caps
½	SP2550	SP4550	SP4230	SP1390	SP1326
¾	SP2575	SP4575	SP4231	SP1391	SP1327
1	SP2600	SP4600	SP4232	SP1392	SP1328
1¼	SP2125	SP4125	SP4233	SP1393	SP1329
1½	SP2150	SP4150	SP4234	SP1394	.....
2	SP2200	SP4200	SP4235	SP1395	.....

†Nonraintight couplings for ¼-inch only, SP4270 and SP4271.

ELBOWS FOR ELECTRICAL METALLIC TUBING

Standard Radius, 90° Elbows

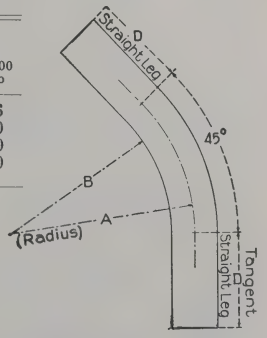
Size of Elbow in In.	DIMENSIONS IN INCHES				Wt per 100 in Lb
	A (Radius)	B	(C) (Offset)	D (Tangent)	
1	5¾	4 9/16	10⅛	4⅜	96
1¼	7¼	4¾	11¾	4½	150
1½	8¼	6	12 5/16	4 1/16	180
2	9½	6⅞	14½	5	280



Standard Radius, 90° Elbow

Standard Radius, 45° Elbows

Size of Elbow in In.	DIMENSIONS IN INCHES			Wt per 100 in Lb
	A	B	D	
1¼	7¼	4¾	5½	124
1½	8¼	6	5⅛	147
2	9½	6⅞	6	226

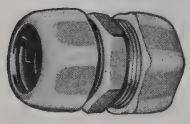


Standard Radius, 45° Elbow

G-E E.M.T. FITTINGS

COUPLINGS—RAINTIGHT

Listed by Underwriters' Laboratories, Inc.



SP2550

These raintight couplings line up the tubing and make a rigid, raintight mechanical and electrical connection.

Bodies — malleable iron excepting SP2550, steel. Glands—steel, sizes ⅜-, ½-, ¾-, 1-in. Glands—malleable iron, sizes 1¼-, 1½-, 2-in. SP2550 only has extending collar.

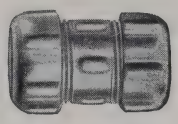
Cat. No.	Will Take E.M.T. Size	Standard Package	Carton Quantity	Wt. Lbs. per 100
SP2550	½"	200	50	13
SP2575	¾"	100	25	20
SP2600	1"	50	25	28
SP2125	1¼"	25	5	88
SP2150	1½"	10	2	110
SP2200	2"	5	2	180

COUPLINGS

Listed by Underwriters' Laboratories, Inc.

Except for Use in Concrete and Wet Locations

This coupling provides a light yet strong fitting where raintight couplings are not needed. It is accurately machined, has smooth threads, rounded edges and no burrs. It can be tightened with wrench or pliers.

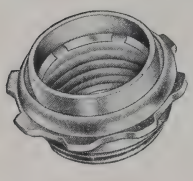


SP4270

Cat. No.	Will Take E.M.T. Size	Standard Package	Carton Quantity	Wt. Lbs. per 100
SP4270	½"	200	50	11

PRESSURE CONNECTOR—RAINTIGHT

Listed by Underwriters' Laboratories, Inc.



SP4281

Gripping ring provides sure, tight grip and makes a permanent bond. Smooth surface inside and out—will not injure conductors.

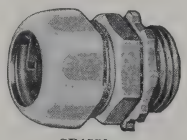
Easy to install—no screws to tighten — no tools required. Raintight — can be used outdoors or in concrete slabs. Body, locknut, gripping ring — stainless steel.

Cat. No.	Will Take E.M.T. Size	Standard Package	Carton Quantity	Wt. Lbs. Per 100
SP4281	½"	1000	200	3

CONNECTORS—RAINTIGHT

Listed by Underwriters' Laboratories, Inc.

These raintight connectors line up the tubing and make a rigid and raintight mechanical and electrical connection. All bodies are malleable iron. Glands up to 1-in. are of steel, all others of malleable iron.



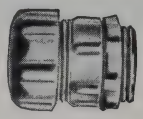
SP4550

Cat. No.	Will Take E.M.T. Size	Standard Package	Carton Quantity	Wt. Lbs. per 100
SP4550	½"	200	50	11
SP4575	¾"	100	25	17
SP4600	1"	50	25	26
SP4125	1¼"	25	5	68
SP4150	1½"	10	2	90
SP4200	2"	5	2	140

G-E E.M.T. FITTINGS

CONNECTOR

Listed by Underwriters' Laboratories, Inc.



SP4271

This connector provides a light yet strong fitting where raintight connectors are not needed. It is accurately machined, has smooth threads, rounded edges and no burrs. Can be tightened with wrench or pliers.

Cat. No.	Will Take E.M.T. Size	Standard Package	Carton Quantity	Wt. Lbs. per 100
SP4271	½"	200	50	8½

ANGLE CONNECTORS—RAINTIGHT

Listed by Underwriters' Laboratories, Inc.

These 90 deg. box connectors are of the same design as the Raintight Couplings and Connectors. Ridged nuts on sizes ½-in., ¾-in., and 1-in. Ribbed nuts on other sizes.

SP4230

Cat. No.	Description	Std. Pkg.	Carton	Wt. Lbs. per 100
SP4230	½-in. Short Radius	50	25	21
SP4231	¾-in. Short Radius	50	25	32
SP4232	1 -in. Short Radius	25	5	52
SP4233	1¼-in. Short Radius	10	2	80
SP4234	1½-in. Short Radius	10	2	160
SP4235	2 -in. Short Radius	10	2	240

ENTRANCE CAPS

Listed by Underwriters' Laboratories, Inc.

SP1326

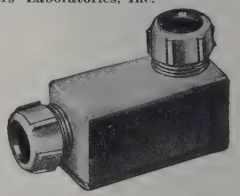
A threadless entrance cap made of heavy cast iron, galvanized. Composition insulators have four holes, two of which are removable knockouts. Ridged nuts on ½-in., ¾-in., and 1-in. Ribbed nuts on 1¼-in.

Cat. No.	Size	Standard Package	Carton Quantity	Wt. Lbs. Per 100
SP1326	½"	50	10	74
SP1327	¾"	50	5	104
SP1328	1"	25	5	160
SP1329	1¼"	10	1	140

ENTRANCE ELLS

Listed by Underwriters' Laboratories, Inc.

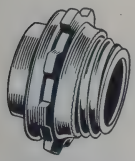
A 90 deg. Entrance Ell with removable back plate. The square box fits snugly against the wall yet allows plenty of room for splices. Made of malleable iron.



SP1390-SP1395

Cat. No.	Will Take E.M.T. Size	Standard Package	Carton Quantity	Wt. Lbs. per 100
SP1390	½"	50	5	58
SP1391	¾"	20	5	92
SP1392	1"	10	5	140
SP1393	1¼"	10	1	255
SP1394	1½"	5	1	310
SP1395	2"	5	1	500

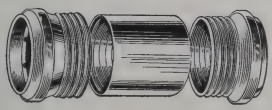
TOMIC EMT THINWALL CONNECTORS



Interior stainless steel lock washer holds tubing securely; makes uniform, safe, permanent, vibration-proof 6-point ground around entire tube. Concrete tight. No inside ridges to snag fishtape or fray wire, easy to install, easy to inspect. Ideal for cramped or corner locations. Simple, strong, solid construction, cadmium finish. Underwriters' Approved. Furnished with Locknuts assembled.

Cat. No.	Size Inches	Std. Pkg.	Carton Quan.	Wt.Lbs. Per 100	Price per 100 Less than Carton	Carton	Std. Pkg.
10	½	1000	200	3	**$11.90**	**$ 9.10**	**$ 7.80**
11	¾	500	100	4	**14.90**	**12.50**	**10.45**
12	1	50	25	5	**22.10**	**18.50**	**16.00**

TOMIC EMT THINWALL COUPLING



Screws in on straightaway jobs — snaps in on corner jobs. No tools needed, will never shake loose, positive ground. Smooth raceway assured. Easy to install, easy to inspect; simple, strong construction. Change from conduit to thinwall in middle of a job without special expensive fittings.

Cat. No.	Size Inches	Std. Pkg.	Carton Quan.	Wt.Lbs. Per 100	Price per 100 Less than Carton	Carton	Std. Pkg.
310	½	250	50	9	**$19.25**	**$17.25**	**$15.75**
311	¾	100	25	12	**26.25**	**23.10**	**21.00**
312	1	50	25	18½	**35.00**	**31.75**	**28.75**

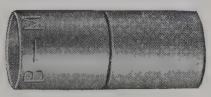
G-E EMT FITTINGS

Federal Specifications—W-F-406, August 27, 1937

BRIEGEL "TELESCOPE SYSTEM" FITTINGS

Listed by Underwriters' Laboratories, Inc.

BM21



BM41

This compact system provides all of the necessary couplings and connections for small EMT. The cadmium finish fittings make easily installed durable connections. Special tools (indenters) are needed to secure fittings tightly to tubing.

Cat. No.	Size In.	Standard Package	Carton Quantity	Weight per 100
		Connectors		
BM21	½	200	50	6
BM22	¾	100	25	12
BM23	1	50	10	15
		Couplings		
BM41	½	200	50	5
BM42	¾	100	25	10
BM43	1	50	10	12

G-E EMT FITTINGS

Federal Specifications—W-F-406, August 27, 1937

BRIEGEL METHOD TOOLS

Cat. No. BM100

It is only necessary to compress the handles once to apply uniform pressure on the cutting wheel. A reamer is attached to remove the burr from the inside of the tube. For ½-inch to 1-inch sizes inclusive.

Cat. No. BM600

Indenter with removable jaws (not furnished). By means of interchangeable jaws this Indenter can be used with ½, ¾ or 1-inch fittings. For jaws available see BM6000, BM6001 and BM6002, below.

Cat. No. BM606

Indenter for ½-inch pipe only.

Cat. No. BM1000

For ½ to 1-inch sizes inclusive. This simple tube-holder enables user to hold the Electrical Metallic Tubing in one hand while cutting and burring the tube. Will not distort tube, or damage the outside finish of the tube.

Cat. No.	Description
BM100	Cutter for ½-in., ¾-in., and 1-in. ETM.....
BM101	Replacement cutter wheel—for BM100....
BM600	Indenter for ½-in., ¾-in., and 1-in. fittings by use of Interchangeable Jaws.....
BM606	Indenter for ½-in. pipe only.....
BM1000	Holder for ½-in., ¾-in., and 1-in. EMT....
BM6000	½-in. Jaws for BM600.....
BM6001	¾-in. Jaws for BM600.....
BM6002	1-in. Jaws for BM600.....
BM7000	Replacement points for all jaw sizes (BM-606, BM6000, BM6001, BM6002).....

FLEXIBLE METAL CONDUIT
Excerpts from National Electrical Code (1951 Edition)

ARTICLE 350

3501. Scope. Installations of flexible metal conduit shall comply with the provisions of section 3001 to 3020, sections 3343, 3344, 3348, and of sections 3465 to 3468 inclusive, and in addition shall comply with the provisions of the following sections 3502 and 3503.

3502. Use. Flexible metal conduit shall not be used (1) in wet locations, unless conductors are of the lead-covered type or of other type specially approved for the conditions; (2) in hoistways, except as provided in section 6206; (3) in storage-battery rooms; (4) in any hazardous location except as permitted by sections 5054 and 5073; nor (5) where rubber-covered conductors are exposed to oil, gasoline, or other materials having a deteriorating effect on rubber.

ARMORED CABLE
Excerpts from National Electrical Code (1951 Edition)

ARTICLE 334

3341. Scope. Installations of armored cable shall comply with the provisions of sections 3001 to 3020 inclusive, and in addition shall comply with the provisions of the following sections 3342 to 3348 inclusive.

3342. Use. Armored cable (types AC or ACT) may be used for both exposed work and concealed work in dry locations; for underplaster extensions as provided in Article 344; and embedded in plaster finish on brick or other masonry, except in damp or wet locations. Armored cable (type ACV) in sizes No. 4 and larger may be used for exposed work in dry locations in buildings occupied for industrial purposes. Armored cable shall contain lead-covered conductors (type ACL) if used where exposed to the weather or to continuous moisture, for underground runs and embedded in masonry, concrete or fill in buildings in course of construction, or where exposed to oil, gasoline or other conditions having a deteriorating effect on the insulation. Armored cable shall not be used (1) in theaters, except as provided in section 5211; (2) in motion-picture studios; (3) in any hazardous locations; (4) where exposed to corrosive fumes or vapors; (5) in storage-battery rooms; (6) on cranes or hoists, except as provided in sub-paragraph 6113-c; nor (7) in hoistways or on elevators, except as provided in section 6206.

3343. Supports. Armored cable shall be secured by approved staples, straps, or similar fittings, so designed and installed as not to injure the cable. Cable shall be secured at intervals not exceeding 4½ feet and within 12 inches from every outlet box or fitting, except where cable is fished and except lengths of not over 24 inches at terminals where flexibility is necessary.

3347. Protection at Cable Ends. At all points where the armor terminates, a fitting shall be provided to protect wires from abrasion, unless the design of the outlet boxes or fittings is such as to afford equivalent protection, and in addition, an approved insulating bushing or its equivalent approved protection shall be provided between the conductors and the armor. The connector or clamp by which the armored cable is fastened to boxes or cabinets shall be of such design that the insulating bushing or its equivalent will be visible for inspection. This bushing will not be required with lead-covered cables which shall be so installed that the lead sheath will be visible for inspection.

3348. Bends. All bends shall be so made that the armor of the cable will not be injured, and the radius of the curve of the inner edge of any bend shall be not less than 5 times the diameter of the cable.

NON-METALLIC SHEATHED CABLE
Excerpts from National Electrical Code (1951 Edition)

ARTICLE 336

3361. Scope. Installations of non-metallic sheathed cable shall comply with the provisions of sections 3001 to 3020 inclusive, and shall also comply with the provisions of the following sections 3362 to 3370 inclusive.

3362. Use. Non-metallic sheathed cable may be used for both exposed and concealed work. Non-metallic sheathed cable shall not be used as service-entrance cable; nor shall it be embedded in masonry, concrete, fill or plaster, nor run in a shallow chase in masonry or concrete walls and covered with plaster or similar finish. Non-metallic sheathed cable may be run or fished in the air voids of concrete masonry block or tile walls where such walls are not exposed or subject to excessive moisture or dampness. Non-metallic sheathed cable shall not be installed (1) in commercial garages, (2) in theaters, except as provided in section 5211, (3) in motion-picture studios, (4) in storage battery rooms, (5) in hoistways, (6) in any hazardous location, (7) in breweries, ice plants, cold storage warehouses, and similar wet locations where subject to mildly corrosive fumes and vapors, or where exposed to the weather, but not including dairy barns, chicken houses and similar locations.

3363. Supports. Non-metallic sheathed cable shall be secured by approved staples, straps, or similar fittings, so designed and installed as not to injure the cable. Cable shall be secured in place at intervals not exceeding 4½ feet and within 12 inches from every outlet box or fitting, except that in concealed work in finished buildings where such supporting is impracticable, the cable may be fished from outlet to outlet.

3368. Bends. Bends in cable shall be so made, and other handling shall be such, that the protective coverings of the cable will not be injured, and no bend shall have a radius less than 5 times the diameter of the cable.

3369. Devices of Insulating Material. Switch, outlet and tap devices of insulating material may be used without boxes in exposed cable wiring, and for concealed work for rewiring in existing buildings where the cable is concealed and fished. Openings in such devices shall form a close fit around the outer covering of the cable and the device shall fully enclose that part of the cable from which any part of the covering has been removed. If connections to conductors are by binding-screw terminals, there shall be available as many screws, as conductors, unless cables are clamped within the structure, or unless terminals are of a type approved for the purpose.

3370. Boxes of Insulating Material. Non-metallic outlet boxes approved for the purpose may be used as provided in section 3703.

G-E SINGLE STRIP FLEXIBLE CONDUIT

Listed by Underwriters' Laboratories, Inc.

Single Strip Conduit

G-E Flexible Conduit is made of tough, single strip steel galvanized inside and out to prevent atmospheric corrosion. Its interior is extremely smooth to permit easy wire pulling. General Electric flexible conduit may be shaped by hand and wires can be pulled easily around bends, without risk of damage to insulation. Where connections are necessary, only simple fittings are required.

Size in Inches	FLEXIBLE CONDUIT		FITTINGS FOR USE WITH FLEXIBLE CONDUIT							
	Approx. Feet Standard Coil	Weight in Pounds Per M Ft	Approx. Outside Diameter	Size K. O. Connector	Straight Connectors	45-deg. Angle Connectors	90° Angle Connectors	Straight Tite-Bite Connectors	90° Angle Tite-Bite Connectors	Couplings
5/16	250	155	.490	½	SP7119	.....	SP6192	.....	SP5321	.....
⅜	250	260	.610	½	SP7117	SP6190	SP6185	SP5300	SP5321	.....
½	100	475	.910	½	SP7120	SP6191	SP6183	SP5302	SP5323	SP6172
¾†	100/50	600	1.090	¾	SP6122	SP6194	SP6184A	SP5304	SP5325	SP6173
1	50	1025	1.370	1	SP6130	.....	SP6195	SP5306	SP5326	SP6174
1¼	50	1260	1.600	1¼	SP6126	.....	SP6196	SP5308	SP5327	SP6175
1½	25	1640	1.940	1½	SP6133½	.....	SP6197	SP5310	SP5328	SP6176
2	25	2130	2.420	2	SP6134	.....	SP6180	SP5312	SP5329	SP6177
2½	25	2640	3.000	2½	SP6129	.....	SP6181	SP5314	SP5330	SP6178
3	25	3200	3.350	3	SP6130	.....	SP6182	SP5316	SP5331	SP6179

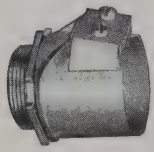
Note: †Comes in both 100- and 50-foot standard coils. If not specified, 100-foot lengths will be furnished. Standard coils vary within limits specified. If an order calls for less than maximum length specified we will ship the nearest length available. We do not cut coils. Continuous lengths up to 1000 ft. can be made up special.

Federal Specifications—E-WW-C-566, Conduit Steel, Flexible. G-E Single Strip Flexible Conduit is approved under this specification.

G-E FITTINGS FOR ARMORED CONDUCTORS AND FLEXIBLE CONDUIT

STRAIGHT "TITE-BITE" CONNECTORS

SP5300



SP5310

These connectors are recommended for use in locations subject to vibration. They take a wide range of armored cable sizes and make a fast, safe and secure installation.

Visible-type connectors are supplied in sizes ½-inch to 1-inch inclusive. Malleable iron excepting SP5300, steel.

Cat. No.	Will Fit KO in Inches	WILL HOLD			Minimum I. D. in Inches	Maximum I. D. in Inches	Standard Package	Carton Quantity	Weight per 100
		BX	BX Leaded	Flexible Conduit in Inches					
SP5300	½	14/4, 12/2, 12/3, 10/2, 10/3	14/2, 14/3, 14/4, 12/2, 12/3	⅜	.437	.656	1000	100	7
SP5301	½	12/4, 10/3	12/3, 10/2, 10/3	.....	.625	.781	100	50	16
SP5302	½	10/4, 8/2	8/2	½	.750	.937	100	50	15
SP5304	¾	8/3, 8/4, 6/2, 6/3	8/3, 6/2, 6/3	¾	.906	1.093	100	25	23
SP5305	1	6/2, 6/3, 4/2, 4/3	6/2, 6/3, 4/2	½	.875	1.063	25	10	36
SP5306	1	2/2	4/3	1	1.250	1.468	25	10	40
SP5308	1¼	.....	.....	1¼	1.562	1.750	10	5	60
SP5310	1½	.....	.....	1½	1.812	2.031	10	5	100
SP5311SV†	2	.....	.....	.....	.....	.....	10	5	130
SP5312	2	.....	.....	2	2.312	2.500	10	5	130
SP5312SV†	2	.....	.....	.....	.....	.....	10	5	130
SP5314	2½	.....	.....	2½	2.812	3.000	5	1	200
SP5314SV†	2½	.....	.....	.....	.....	.....	5	2	200
SP5316	3	.....	.....	3	3.312	3.562	5	1	260
SP5316V†	3	.....	.....	.....	.....	.....	5	2	260

†V-type in sizes, 2, 2½ and 3-inch available only when specified on orders.

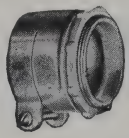
Federal Specifications—E-W-F-406, April 3, 1942.

G-E FITTINGS FOR ARMORED CONDUCTORS AND FLEXIBLE CONDUIT

STRAIGHT "SQUEEZE" CONNECTORS

Listed by Underwriters' Laboratories, Inc.

SP7118 - SP7119 - SP7120 SP7123



SP6124

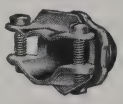
SP6129

This line of galvanized, malleable iron connectors in a wide range of sizes assures a proper connection for cables or conduit requiring a "squeeze-type" connector. Visible-type supplied in sizes ½-inch to 1-inch, inclusive.

Cat. No.	Will Fit KO in Inches	WILL HOLD BX	WILL HOLD BX Leaded	WILL HOLD Flexible Conduit in Inches	WILL HOLD Armored Cords	Minimum I. D. in Inches	Maximum I. D. in Inches	Std Pkg	Carton Quan.	Weight per 100
SP7116	⅜	.....	.....	.....	18CA, 16CA	.344	.469	100	50	6
SP7117	⅜	12/2, 14/2, 14/3	.....	5/16	18PA	.438	.531	100	50	5
SP7118	⅜, ½	.....	.....	.....	18CA	.344	.469	100	50	6
SP7119	⅜, ½	14/2, 14/3	.....	5/16	16CA, 18PA	.438	.531	100	50	7
SP7120	½	14/2, 14/3, 14/4, 12/2, 12/3	14/2, 14/3, 12/2, 12/3	⅜	14CA, 16PA	.500	.594	1000	100	6
SP7124	½	14/4, 12/3, 10/2	12/2, 12/3, 14/3	⅜	.....	.563	.656	1000	100	13
SP6121	½	12/4, 10/3	12/3, 10/2, 10/3	.....	.....	.688	.812	100	50	13
SP7123	½	8/2	8/2	½	.....	.813	.938	100	50	13
SP6122	¾	6/2, 6/3, 8/3	8/3, 6/2, 8/2	½	.....	.875	1.000	100	25	18
SP7130	¾	.....	6/3	¾	.....	1.000	1.218	100	25	16
SP6124	¾	4/2, 6/3, 8/4	8/3, 6/2, 6/3	¾	.....	.933	1.094	100	25	18
*SP6127	¾	8/2, 8/3, 6/2	.....	.....	.....	.750	.937	100	25	22
SP6143	1	8/4, 4/2, 4/3	4/3, 6/3, 6/2	.....	.....	.937	1.125	50	25	22
SP6125	1	.....	.....	1	.....	1.250	1.375	25	10	30
SP6126	1¼	.....	.....	1¼	.....	1.500	1.656	10	5	40
†SP6126RV	1¼	.....	.....	.....	.....	.....	.....	10	5	45
SP6133½	1½	.....	.....	1½	.....	1.688	1.875	10	5	80
†SP6133½V	1½	.....	.....	.....	.....	.....	.....	10	5	70
SP6134	2	.....	.....	2	.....	2.313	2.500	10	5	100
†SP6134V	2	.....	.....	.....	.....	.....	.....	10	5	100
SP6129	2½	.....	.....	2½	.....	2.812	3.000	5	1	160
SP6130	3	.....	.....	3	.....	3.312	3.563	5	2	200

*Not listed by Underwriters' Laboratories, Inc.
†V-type in sizes 1¼, 1½, and 2-inch available only when specified on orders.

TWO-SCREW CONNECTORS



SP3301V

SP3302

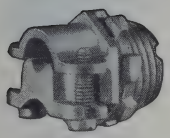
Cat. No.	Will Fit KO in In	WILL HOLD BX	WILL HOLD BXL	WILL HOLD Armored Ground Wire	WILL HOLD BraidX	WILL HOLD Super PVX and PVX	WILL HOLD Service Entrance SEA, SEU, SD	Std Pkg	Carton	Wt., Lb. 100
SP3301V†	½	10/2, 10/3, 12/2, 12/3, 12/4, 14/2, 14/3, 14/4	12/2, 12/3, 12/4, 14/2, 14/3, 14/4	.....	.....	.....	.....	1000	100	6
SP3302	½	14/2, 14/3, 14/4, 12/2, 12/3, 12/4, 10/2, 10/3	14/2, 14/3, 14/4, 12/2, 12/3, 12/4,	8 6 4	12/3, 14/3, 14/2, 12/2, 12/3, 10/2, 10/3	10/2, 10/3, 12/3, 14/3, 14/2, 12/2,	12/2 10/2 8/2	1000	100	6

†Will also hold ⅝-in. and ¾-in. Fleexible Conduit.
Federal Specifications — E-W-F-406, April 3, 1942.

G-E FITTINGS FOR ARMORED CONDUCTORS AND FLEXIBLE CONDUIT

MISCELLANEOUS CONNECTORS

Listed by Underwriters' Laboratories, Inc.



*SP7051
Reversible

SP7105
Set Screw

SP7125
Duplex
Set Screw

SP7126
Duplex Squeeze

Reversible Connectors — Malleable Iron

Cat. No.	Will Fit KO in In	WILL HOLD			Std Pkg	Carton	Wt Lb Per 100
		BX	BX Leaded	Flex. Cond.			
SP7051†	½	14/2, 14/3, 14/4, 12/2, 12/3, 10/2	14/2, 14/3, 14/4, 12/2, 12/3	⅜ 5/16	1000	100	9

Setscrew Connectors — Malleable Iron

Cat. No.	Will Fit KO in In	WILL HOLD			Std Pkg	Carton	Wt Lb Per 100
		BX	BX Leaded	Flex. Cond.			
SP7105	½	14/2, 14/3, 14/4, 12/2, 12/3, 10/2	14/2, 14/3, 14/4, 12/2, 12/3, 10/2	⅜	1000	100	5½
SP7106	½	8/2	8/2	½	100	50	12

Duplex Setscrew Connector — Malleable Iron

Cat. No.	Will Fit KO in In	WILL HOLD			Std Pkg	Carton	Weight Lb Per 100
		BX	BX Leaded	Flex. Cond.			
SP7125	½	14/2, 14/3, 12/2, 12/3	14/2, 14/3, 12/2, 12/3	5/16	100	25	15

Duplex Squeeze Connector — Malleable Iron

Cat. No.	Will Fit K O in In	WILL HOLD						Std Pkg	Carton	Wt Lb Per 100
		BX	BXL							
SP7126	½	14/2, 12/2, 10/2	14/2, 12/2					100	25	20

Federal Specifications — E-W-F-406, April 3, 1942.

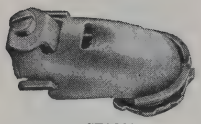
†Not listed by Underwriters' Laboratories, Inc.

G-E FITTINGS FOR ARMORED CONDUCTORS AND FLEXIBLE CONDUIT

Listed by Underwriters' Laboratories, Inc.

Malleable Iron—Electrogalvanized

90° ANGLE "TITE-BITE" CONNECTORS



SP5321

Make a fast, safe and secure installation in locations subject to vibration.

SP5328

Cat. No.	Will Fit KO in Inches	WILL HOLD BX	WILL HOLD BX Leaded	WILL HOLD Flexible Conduit in Inches	Minimum I. D. in Inches	Maximum I. D. in Inches	Standard Package	Carton Quantity	Weight Lbs per 100
SP5321	½	14/2, 14/3, 14/4, 12/2, 12/3, 10/2	14/2, 14/3, 12/2, 12/3	⅝, ⅜	.437	.656	100	50	19
SP5322	½	12/4, 10/3	10/2, 10/3, 12/4	.....	.625	.781	100	50	26
SP5323	½	8/2, 10/4	10/4	½	.750	.937	100	25	25
SP5325	¾	8/3, 8/4, 6/2, 6/3, 4/2	8/2, 8/3, 6/2, 6/3	¾	.906	1.093	50	25	34
SP5326	1	2/2	4/3	1	1.250	1.468	25	10	60
SP5327	1¼	.....	.....	1¼	1.562	1.750	10	5	110
SP5328	1½	.....	.....	1½	1.812	2.031	10	5	170
SP5329	2	.....	.....	2	2.312	2.500	5	1	280
SP5330	2½	.....	.....	2½	2.812	3.000	5	1	480
SP5331	3	.....	.....	3	3.312	3.562	5	1	800

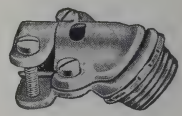
ANGLE "SQUEEZE" CONNECTORS

Listed by Underwriters' Laboratories, Inc.

SP6183

90° Angle

SP6180



45° Angle

90° Angle "Squeeze" Connectors

Cat. No.	Will Fit K O in Inches	WILL HOLD BX	WILL HOLD BX Leaded	WILL HOLD Flexible Conduit in Inches	Minimum I. D. in Inches	Maximum I. D. in Inches	Standard Package	Carton Quantity	Weight Lbs per 100
SP6192	½	14/2, 14/3, 14/4, 12/2, 12/3	14/2, 14/3, 14/4, 12/2, 12/3	⅝, ⅜	.500	.625	100	50	15
SP6185	½	14/4, 12/3, 10/2	14/3, 14/4, 12/2, 12/3, 10/2	⅜	.531	.688	100	50	34
SP6183	½	8/2	8/2	½	.813	.938	100	25	20
SP6193	½	8/2	8/2	½	.750	.937	100	25	25
SP6184	¾	8/3, 8/4, 6/2, 6/3	8/3, 8/2	½	.875	1.000	50	25	32
SP6194A	¾	8/4, 4/2, 6/3	6/3, 6/2, 4/2	¾	1.000	1.125	50	25	100
SP6195	1	.....	.....	1	1.187	1.406	25	10	52
SP6196	1¼	.....	.....	1¼	1.375	1.656	10	5	110
SP6197	1½	.....	.....	1½	1.625	1.875	10	5	180
SP6180	2	.....	.....	2	2.125	2.500	5	1	300
***SP6181**	2½	.....	.....	2½	2.750	3.000	5	2	500
***SP6182**	3	.....	.....	3	3.000	3.375	5	2	550

45° Angle "Squeeze" Connectors

SP6190	½	14/3, 14/4, 12/2, 12/3, 10/2	14/2, 14/3, 14/4, 12/2, 12/3	⅜	.500	.625	100	25	18
SP6191	½	8/2	8/2	½	.813	.938	100	25	21
SP6194	¾	4/2	4/2, 6/3	¾	1.000	1.125	50	25	26

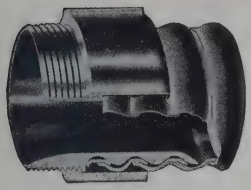
*Not listed by Underwriters' Laboratories, Inc.

Federal Specifications — E-W-F-406, April 3, 1942.

"JAKE" CONDUIT FITTINGS

"JAKE" STRAIGHT BOX CONNECTORS

For Flexible Metallic Conduit



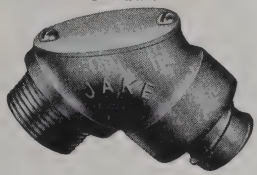
This box connector for flexible metallic conduit firmly grips and automatically locks the conduit in a uniform manner without tending to collapse the conduit. It covers up all ragged edges of the conduit and furnishes a smooth interior surface, thus preventing damage to conductors.

Cat. No.	Size, Inches Conduit	Size, Inches Knockout	Carton	Std. Pkg.	Wt. Lbs. Per 100
BC-031	⅛	½	25	100	10
BC-038	⅜	½	25	100	11
BC-050	½	½	25	100	10
BC-075	¾	¾	25	100	17
BC-100-2	*1	1	10	30	30
BC-100-3	*1	1	10	30	30
BC-125	1¼	1¼	5	10	60
BC-150	1½	1½	5	10	87
BC-200	2	2	5	10	147
BC-250	2½	2½	2	4	216
BC-300	3	3	2	4	330
BC-350	3½	3½	2	4	510
BC-400	4	4	2	4	730

"JAKE" 90 DEGREE CONNECTORS

For Flexible Metallic Conduit

The 90-degree connector for flexible metallic conduit embodies all the good points of the straight box connector, and permits a direct pull in both directions on the 90° angle.



Cat. No.	Size, Inches Conduit	Size, Inches Knockout	Carton	Std. Pkg.	Wt. Lbs. Per 100
N-038	⅜	½	25	100	20
N-050	½	½	25	100	29
N-075	¾	¾	15	45	41
N-100-2	*1	1	10	30	84
N-100-3	*1	1	10	30	84
N-125	1¼	1¼	5	10	105
N-150	1½	1½	5	10	154
N-200	2	2	2	4	303

"JAKE" 45-DEGREE BOX CONNECTOR

For Flexible Metallic Conduit

Particularly adaptable in the making of connections on machine tools.

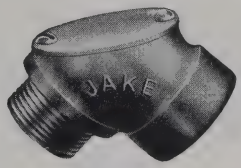
Cat. No.	Size, Inches Conduit	Size, Inches Knockout	Carton	Std. Pkg.	Wt. Lbs. Per 100
F-050	½	½	15	45	50
F-075	¾	¾	10	30	77
F-100-2	*1	1	5	20	138
F-100-3	*1	1	5	20	138

*1-inch flexible metallic conduit is made with both 2 and 3 threads or convolutions per linear inch. The suffix -2 designates 2 convolutions per linear inch, and suffix -3 designates 3 convolutions per linear inch.

"JAKE" CONDUIT FITTINGS

"JAKE" 90 DEGREE ADAPTERS

General Purpose Fitting

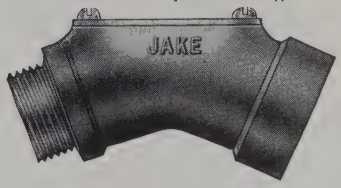


May be used for converting a straight box connector into a 90-degree box connector or may be used as a 90-degree box connector for rigid conduit.

Cat. No.	Size, Inches Conduit	Size, Inches Knockout	Carton	Std. Pkg.	Wt. Lbs. Per 100
N-050-R	½	½	25	100	28
N-075-R	¾	¾	20	60	44
N-100-R	1	1	10	30	84
N-125-R	1¼	1¼	5	10	88
N-150-R	1½	1½	5	10	132

"JAKE" 45-DEGREE ADAPTERS

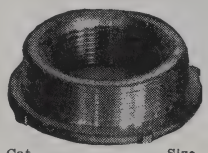
General Purpose Fitting



For converting a straight box connector into a 45-degree box connector, or may be used as a 45-degree box connector for rigid conduit.

Cat. No.	Size, Inches Conduit	Size, Inches Knockout	Carton	Std. Pkg.	Wt. Lbs. Per 100
F-050-R	½	½	15	45	44
F-075-R	¾	¾	10	30	77
F-100-R	1	1	5	20	121

"JAKE" REDUCING BUSHINGS



Designed especially for conduit work. Bevel edges protect conductors. Consumes minimum space in effecting reduction and has ample threads for all conduit sizes.

Cat. No.	Size Inches	Carton	Std. Pkg.	Wt. Lbs. Per 100
75-B- 50	¾ x ½	50	100	7
100-B- 50	1 x ½	25	50	16
100-B- 75	1 x ¾	25	50	11
125-B- 50	1¼ x ½	25	25	30
125-B- 75	1¼ x ¾	25	25	28
125-B-100	1¼ x 1	25	25	19
150-B- 50	1½ x ½	25	25	53
150-B- 75	1½ x ¾	25	25	49
150-B-100	1½ x 1	25	25	37
150-B-125	1½ x 1¼	25	25	22
200-B- 50	2 x ½	25	25	95
200-B- 75	2 x ¾	25	25	88
200-B-100	2 x 1	25	25	76
200-B-125	2 x 1¼	25	25	61
200-B-150	2 x 1½	25	25	48
250-B- 50	2½ x ½	10	10	166
250-B- 75	2½ x ¾	10	10	161
250-B-100	2½ x 1	10	10	155
250-B-125	2½ x 1¼	10	10	130
250-B-150	2½ x 1½	10	10	113
250-B-200	2½ x 2	10	10	69
300-B-200	3 x 2	10	10	176
300-B-250	3 x 2½	10	10	119
350-B-250	3½ x 2½	5	5	234
350-B-300	3½ x 3	5	5	131
400-B-300	4 x 3	2	2	251

G-E ENTRANCE FITTINGS

For Service Entrance and Non-metallic Cables

NON-WATERTIGHT CONNECTORS

This line of galvanized malleable-iron connectors is designed to offer fittings which will accommodate all popular sizes of Entrance Cable. The SP7000-SP7004 and SP7101 are aso recommended for use with BraidX, PVX, Super PVX.

SINGLE-SCREW TYPE

SP7000

SP7101

Cat. No.	Will Fit KO	Service Entrance SEA SEU; SD	Std. Pkg.	Carton Qty.	Wt. Lbs. per 100
FOR OVAL CABLE					
SP7000	½"	12/3	1000	100	7½
SP7001	½"	10/3	100	50	14
SP7002	¾"	8/3	50	25	14
SP7003	1 "	6/3	20	10	25
SP7004	1¼"	4/3, 2/3	10	5	40
FOR ROUND CABLE					
SP7101	½"	12/2, 10/2	1000	100	7

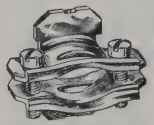
TWO-SCREW TYPE

SP7011

SP7011	½"	6/2, 4/2	100	50	15
SP7012	¾"	4/2, 2/2, 4/3	100	25	19
SP7013	¾"	2/3	100	25	21
SP7014	1 "		100	25	25

SP7011-SP7014 are also recommended for use with BraidX, PVX, BX, BXL, and Flexible Conduit.

TOMIC CABLE CONNECTORS

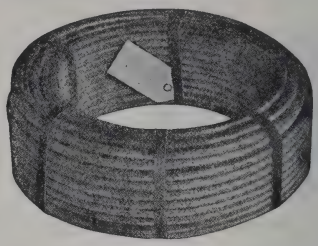


No. 100 Romex Cable Connector
No. 200 Service Entrance and Range Cable Connector

Cat. No.	Size In. K.O.	Wt. Lbs. Per 1000	Price per 1000 Less than Carton	Carton 200	Standard Pkg. 1000
For Romex					
100	½	50	**$75.75**	**$57.00**	**$45.00**
For Service Entrance and Range					
200	¾	75	**$118.25**	**$91.00**	**$71.50**

NON-METALLIC FLEXIBLE CONDUIT

National Electrical Code Standard



Made in accordance with the requirements of the National Electrical Code and regularly inspected and approved by the Underwriters' Laboratories, Inc.

All non-metallic flexible conduits are similar in that they are highly flexible, waterproof and of high insulating qualities; tubing is coated with a fire resistive and moisture proof compound which affords an excellent protection for wires and cables. The smooth inside surface makes the fishing of wires easy.

Diam. In. Nominal	Inches Actual	Feet per Coil	Wt. Lbs. Per 1000 Ft.	Price Per Foot
7/32	0.265	250	33	**$0.15½**
¼	.313	250	37	**.06**
⅜	.438	250	64	**.09**
½	.563	200	85	**.12**
⅝	.688	200	110	**.15**
¾	.813	150	112	**.18**
1	1.063	100	210	**.25**
1¼	1.313	100	280	**.33**
1½	1.563	Odd Lengths	310	**.40**
1¾	1.813	Odd Lengths	360	**.47**
2	2.063	Odd Lengths	400	**.55**
2¼	2.313	Odd Lengths	440	**.65**
2½	2.560	Odd Lengths	------	--------

G-E FITTINGS FOR ARMORED CONDUCTORS AND FLEXIBLE FITTINGS

CABLE STRAPS AND STAPLES

Stamped Steel

SP6020 SP6030 SP6050

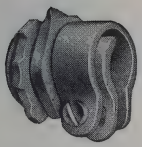
Impressions in the steel of these straps, which conform with the convolutions of the cable, prevent slipping after installation.

Cat. No.	Will Hold	Carton	Std Pkg	Wt Lb Per 100
SP6020	14/2, 14/3, 12/2, 12/3, BX; 14/2, 12/2 BXL; ⅛", ⅜" Flex.	500	2,500	1½
SP6030	14/3, 12/2 BX; 14/3, 14/2, BXL	------	25 lb	¾
SP6050	12/3, 14/4, 10/2, 12/4, 10/3 BX; 14/3, 12/2, 12/3, 14/2 BXL; ⅜" RC, ⅜" Flex.	100	1,000	4
SP6051	10/4, 8/2, 8/3, 6/2, 6/3 BX; 8/2, 8/3 BXL; ½" RC, ½" Flex.	100	1,000	6
SP6052	8/4, 4/2, 4/3 BX; 6/2, 6/3 BXL; ¾" RC, ¾" Flex.	50	500	10

G-E FITTINGS FOR NONMETALLIC CABLE

CONNECTORS

Listed by Underwriters' Laboratories, Inc.

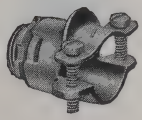


SP7000 - SP7003

SP7101

SP7010

SP7100



SP7011 - SP7014

Non-Watertight Connectors
For Service Entrance and Non-metallic Cables

Cat. No.	Will Fit KO in In	Service Entrance	WILL HOLD			Std Pkg	Carton	Wt Lb Per 100
			BraidX	PVX	Super PVX			
SP7000	½	12/3	14/2, 12/2, 12/3	14/2, 12/2, 12/3	14/2, 12/2, 12/3	1000	100	7½
SP7001	½	10/3	10/2	10/2	10/2	100	50	14
SP7002	¾	8/3	10/2	10/2	10/2	50	25	14
SP7003	1	6/3	8/2, 6/2	8/2, 6/2	8/2, 6/2	20	10	25
SP7004	1¼	4/3, 2/3	6/2, 4/2	6/2, 4/2	6/2, 4/2	10	5	40
SP7101	½	12/2, 10/2	14/2, 14/3, 12/2, 12/3, 10/2	14/2, 14/3, 12/3, 12/2, 10/2	14/3, 12/3 12/3, 10/2	1000	100	7

Expansion-type Connector

Cat. No.	Fits KO in In	WILL HOLD	Std Pkg	Carton	Wt Lb Per 100
SP7010	½	No. 14/2 through 10/3 incl. BraidX, PVX and Super PVX. Will also hold 2-No. 14/2 BraidX and 2-No. 14/2 or 12/2 Super PVX.	1000	100	3½

Universal Connector
For BX, Service Entrance, and Non-metallic Cables

Cat. No.	Will Fit K O in In	WILL HOLD						Std Pkg	Carton	Wt Lb Per 100
		BX	BXL	Armored Ground Wire		Super PVX and PVX	Service Entrance			
SP7100	½	14/2, 14/3, 12/2, 12/3	14/2, 14/3, 12/2	8/1, 6/1, 4/1		14/2, 14/3, 12/3, 12/2, 10/2	1-8-1-8 (2-8)	1000	100	8

Non-Watertight Connectors
For BX, Service Entrance and Non-metallic Cables

Cat. No.	Will Fit K O in In	WILL HOLD						Std Pkg	Carton	Wt Lb Per 100
		Service Entrance SEA, SEU, SD	BraidX	PVX	BX	BXL	Flex. Cond. in In			
SP7011	½	6/2, 4/2	10/3, 8/2	10/3, 8/2	10/2, 10/3, 12/3, 12/4, 8/2, 8/3	12/2, 12/3, 10/2, 10/3, 8/2	⅜, ½	100	50	15
SP7012	¾	4/2, 2/2, 4/3	8/2, 6/2	8/2, 6/2	10/3, 8/2, 8/3	10/3, 8/2	⅜, ½	100	25	19
SP7013	¾	2/3,	6/3, 4/2	6/3, 4/2	8/2, 8/3, 6/2, 6/3	8/2, 8/3, 6/2	¾	100	25	21
SP7014	1					4/3	¾	100	25	25

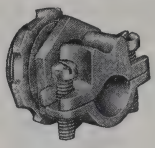
Federal Specifications — E-W-F-406, April 3, 1942.

G-E FITTINGS FOR NONMETALLIC CABLE

CONNECTORS

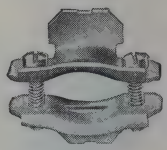
SP7126

SP3302



SP7050

SP1665



SP7250

DUPLEX SQUEEZE CONNECTOR

Listed by Underwriters' Laboratories, Inc.

Cat. No.	Will Fit K O	WILL HOLD			Std Pkg	Carton	Wt Lb per 100
		BX	BXL				
SP7126	½″	14/2, 12/2, 10/2	14/2, 12/2		100	25	20

TWO-SCREW CONNECTOR

For Service Entrance and Nonmetallic Cables

Listed by Underwriters' Laboratories, Inc.

Cat. No.	Will Fit K O	WILL HOLD						Std Pkg	Carton	Wt per 100
		BX	BXL	Armored Ground Wire	BraidX	Super PVX and PVX	Service Entrance SEA SEU, SD			
SP3302	½″	14/2, 14/3 14/4, 12/2 12/3, 12/4 10/2, 10/3	14/2, 14/3 14/4, 12/2 12/3, 12/4	8 6 4	12/3, 14/3 14/2, 12/2 12/3, 10/2 10/3	10/2, 10/3 12/3, 14/3 14/2, 12/2	12/2, 10/2 8/2	1000	100	6

REVERSIBLE CONNECTOR

Cat. No.	Fits K O	WILL HOLD	Std Pkg	Carton	Wt Lb Per 100
SP7050	½″	No. 4, 6, 8 armored ground wire No. 14/2 through 10/3 incl.—BraidX, PVX and Super PVX.	1000	100	8

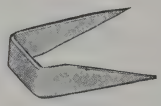
INSULET

Listed by Underwriters' Laboratories, Inc.

Cat. No.	WILL HOLD				Std Pkg	Carton	Wt Lb Per 100
	Flex.	BXL	BX	BraidX			
SP1665	5/16″, 3/8″	14/2, 14/3, 12/2, 12/3	14/2, 14/3, 12/3, 12/2, 10/2	14/2, 14/3, 12/2, 12/3, 10/2	100	25	17

CABLE STRAPS, STAPLES, FLANGE-TYPE CONNECTOR

SP7021



SP6021

Cat. No.	Fits K O	WILL HOLD	Std Pkg	Carton	Wt Lb Per 100
SP6021	. . .	Braid X, PVX and Super PVX.	2500	500	1¼
SP7021	. . .	No. 14/2, 12/2 BraidX, PVX and Super PVX No. 10/2.	25 lb†		1
SP7022	. . .	No. 8/2 BraidX, PVX and Super PVX.	25 lb‡		¾
SP7250	½″	No. 14/2, 12/2, 10/2, 14/3 and 12/3 PVX; No. 14/2, 12/2, 10/2, 14/3, and 12/3 BraidX.	1000	200	5

Federal Specifications—E-W-F-406, April 3, 1942.

†Approx. 84 straps per lb. ‡Approx. 59 straps per lb.

SERVICE ENTRANCE CABLE

Excerpts from National Electrical Code (1951 Edition)

ARTICLE 230

2303. Insulation of Service Conductors. Service conductors shall have an insulating covering which will normally withstand exposure to atmospheric and other conditions of use and which shall prevent any detrimental leakage of current to adjacent conductors, objects, or the ground.

a. Uninsulated Neutral. In the case of service conductors that have a nominal voltage to ground of not more than 208 volts, a grounded neutral service conductor without an insulating covering may be installed.

b. Underground. Except as provided in paragraph a, underground service conductors up to the point of attachment to service equipment shall be covered with rubber, cambric, thermoplastic, paper or other approved insulating material. Service conductors installed underground or in concrete slabs or masonry in direct contact with earth, shall be lead-covered or of other types specially approved for the purpose.

c. Service Drops. Except as provided in paragraph a, service drop conductors in multiple-conductor cables shall be rubber-covered or thermoplastic-covered. All open individual conductors shall be rubber-covered, or weatherproof (type WP).

d. On Exterior of or Entering Buildings. Except as provided in paragraph a, service conductors extending along the exterior of or entering buildings shall be rubber-covered or thermoplastic-covered if in raceways, or in service cables. Open individual conductors which enter the building shall be rubber-covered or thermoplastic-covered; but where on the exterior of the building only may be weatherproof (type WP).

2304. Size of Service Conductors. Service conductors shall have adequate current-carrying capacity to safely conduct the current for the loads supplied without a temperature rise detrimental to the insulating covering of the conductors, and shall have adequate mechanical strength.

a. Service Entrance Conductors. Service entrance conductors, including underground services, shall have a current-carrying capacity sufficient to carry the load as determined by section 2203, and in accordance with Tables 1 and 2 of Chapter 10. Service entrance conductors shall not be smaller than No. 6 except:

1. For installations consisting of not more than two 2-wire branch circuits they shall not be smaller than No. 8.

2. By special permission due to limitations of supply source or load requirements they shall not be smaller than No. 8.

3. For installations to supply only limited loads of a single branch circuit, such as small polyphase power, controlled water heaters and the like, they shall not be smaller than the conductors of the branch circuit and in no case smaller than No. 12.

4. The neutral conductor which shall have a current-carrying capacity in conformity with section 2203-g, but shall not be smaller than the ungrounded conductors when these are No. 8 or smaller.

b. Service Drops. Conductors in service drops shall not be smaller than No. 10 if of soft copper, or No. 12 if of medium or hard-drawn copper.

Conductors to a building from a pole on which a meter or service switch is installed shall be considered as a service drop and installed accordingly.

Underground Services

2311. Mechanical Protection. Underground service conductors shall be protected against mechanical injury by being installed in duct, conduit, in the form of a cable approved for the purpose or by other approved means.

2312. Protection on Poles. If underground service conductors are carried up a pole the mechanical protection shall be installed to a point at least 8 feet above the ground. Such mechanical protection may be provided by the use of approved cable, pipe, or other approved means.

2313. Protection Where Entering Building. Where underground service conductors enter a building, they shall have mechanical protection in the form of rigid or flexible conduit, electrical metallic tubing, auxiliary gutters, the metal tape of an approved service cable, or other approved means. The mechanical protection shall extend to the enclosure for the service equipment unless the service switch is installed on a switchboard, in which case a bushing shall be provided which, except where lead-covered conductors are used, shall be of the insulating type.

2314. Sealing End of Raceway. Where a service raceway or duct enters from an underground distribution system, the end within the building shall be sealed with suitable compound so as to prevent the entrance of moisture or gases. Spare or unused ducts shall also be sealed.

Service Conductors on or in Buildings

2331. Wiring Methods. Service conductors extending along the exterior, or entering buildings, may be installed as separate conductors, in cables approved for the purpose, or enclosed in rigid conduit, or, for circuits not exceeding 600 volts, in electrical metallic tubing or as busways.

Service-entrance conductors should not be run within the hollow spaces of frame buildings unless provided with automatic over-current protection at their outer end.

ARTICLE 338—SERVICE ENTRANCE CABLE

Types ASE, SE and USE

3381. Scope. Service-entrance cable used as service-entrance conductors shall comply with the provisions of Article 230. Service-entrance cable used for interior wiring shall comply with the provisions of sections 3001 to 3020 inclusive. Cable with metal interlocking armor shall be installed in accordance with the applicable provisions of Article 334. Unarmored cable (type SE) shall be installed in accordance with the applicable provisions of Article 336. Service-entrance cable shall also comply with the provisions of sections 3382 and 3383.

3382. Use. Approved service entrance cable may be used in interior wiring systems if all the conductors of the cable are of the rubber-covered or thermoplastic type; but if without individual insulation on the grounded conductor may be used only for range and domestic water-heater circuits, or as feeder from a master service cabinet to supply other buildings, or as service-entrance conductors for such other buildings, if the following conditions are met:

a. The cable has a final non-metallic outer covering.

b. The supply is alternating current not exceeding 150 volts to ground.

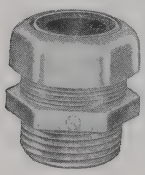
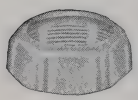
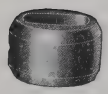
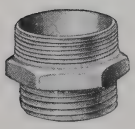
c. No domestic water-heater is supplied through a conductor without individual insulation.

G-E SERVICE ENTRANCE CABLE FITTINGS

CONNECTORS—WATERTIGHT

Listed by Underwriters' Laboratories, Inc.

Federal Specifications—W-F-406, August 27, 1937

Illustration	Catalog Number	Description and Use	Approx Min I.D. in inches	Approx Max I.D. in inches	Std Pkg	Carton	Wt. per C
		ROUND ¾-IN. THREAD SIZE					
	SP2201	Connectors for all sizes of entrance cable. Long, rubber bushings, beveled at both ends, for a snug, watertight fit. Bushings fit into connector body and assure alignment during twisting of cable. Steel body and nut. Brass retaining ring. Rubber bushing.	.300	.360	100	10	18
	SP2202		.355	.405			
	†SP2203		.400	.455			
	†SP2204		.450	.505			
	SP2205		.500	.560			
	†SP2206		.555	.625			
	SP2207		.620	.685			
	†SP2208		.680	.750			
		ROUND 1-IN. THREAD SIZE					
	SP2301	(See description above)	.300	.360	100	10	22
	SP2302		.355	.405			
	SP2303		.400	.455			
	SP2304		.450	.505			
	SP2305		.500	.560			
	SP2306		.555	.625			
	SP2307		.620	.685			
	SP2308		.680	.750			
	SP2320		.745	.820			
	SP2321		.815	.885			
	†SP2322		.870	.940			
		ROUND—1¼-IN. THREAD SIZE					
	†SP2340	(See description above)	.955	1.055	50	5	27
	SP2341		1.120	1.170			
		OVAL—¾-IN. THREAD SIZE					
	SP2211	(See description above)	.380x.520	.420x.560	100	10	18
	SP2212		.420x.560	.470x.620			
	SP2213		.420x.620	.470x.680			
	SP2214		.470x.680	.530x.730			
	SP2215		.530x.730	.580x.800			
		OVAL—1-IN THREAD SIZE					
	SP2311	(See description above)	.380x.520	.420x.560	100	10	22
	SP2312		.420x.560	.470x.620			
	SP2313		.420x.620	.470x.680			
	SP2314		.470x.680	.530x.730			
	SP2315		.530x.730	.580x.800			
	SP2325		.530x.800	.580x.860			
	SP2326		.570x.850	.630x.910			
	SP2327		.620x.900	.670x.970			
		OVAL—1¼-IN. THREAD SIZE					
SP2201-SP2343	SP2342	(See description above)	.660x.960	.700x1.090	50	5	27
	SP2343		.690x1.060	.750x1.150			

†Available with neoprene bushings when specified on special orders.

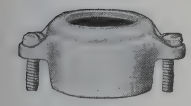
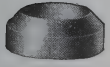
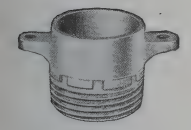
CABLE SIZES

Conductor Sizes Insulated	Approx O. D. in Inches
TYPE SE STYLE U Two-conductor—Round	
12	0.34
10	0.37
8	0.46
6	0.50
6	0.52
4	0.57
4	0.58
2	0.65
2	0.67
Three-conductor—Oval	
12/2	.34x.52
10/2	.37x.57
8/2	.47x.75
6/2	.51x.82
6/2	.53x.84
4/2	.58x.93
4/2	.59x.94
2/2	.65x1.11
2/2	.67x1.13
TYPE SE STYLE A Two-conductor—Round	
12	0.36
10	0.39
8	0.48
6	0.52
6	0.54
4	0.59
4	0.60
2	0.67
2	0.69
Three-conductor Oval	
12/2	.36x.54
10/2	.39x.59
8/2	.49x.77
6/2	.53x.84
6/2	.55x.86
4/2	.60x.95
4/2	.61x.96
2/2	.67x1.08
2/2	.69x1.09
TYPE SD Two-conductor—Round	
12	0.33
10	0.36
8	0.46
6	0.49
6	0.51
4	0.55
4	0.57
2	0.64
2	0.66
Three-conductor—Oval	
12/2	.34x.54
10/2	.37x.60
8/2	.46x.77
6/2	.50x.85
6/2	.51x.86
4/2	.56x.96
4/2	.57x.97
2/2	.63x1.09
2/2	.65x1.11

G-E SERVICE ENTRANCE CABLE FITTINGS

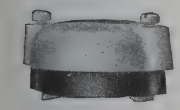
CONNECTORS

Two-Screw Type—Watertight

Illustration	Cat. No.	SEA	SEU	SD	Description and Use	Approx Min. I.D. in Inches	Approx Max. I.D. in Inches	Std Pkg	Carton	Wt per C
	ROUND—¾-IN. THREAD SIZE									
	SP1401A	8/6 8/2	8/6 8/2 6/2	8/6 8/2 6/2	Connectors for all sizes of entrance cable. Tighten both screws to make a watertight fit between rubber bushing and cable.	.430	.525	100	10	18
	SP1401E	4/2 2/2	4/2 2/2	4/2 2/2	Especially suitable for tight place where use of wrench is difficult. Malleable iron.	.590	.675			
	**ROUND 1-IN. THREAD SIZE**									
	SP1402A	8/6 8/2	8/6 8/2 6/2	8/6 8/2 6/2	(See description above.)	.430	.525	100	10	22
	SP1402E	4/2 2/2	4/2 2/2	4/2 2/2						
	**OVAL ¾-IN. THREAD SIZE**									
	SP1401B	10–8/2 8/3	10– 8/2 8/3	6/2– 1/8 6/3		.500x.680	.580x.760			
	SP1401C	8–6/2 6/3	8– 6/2 6/3	6– 4/2 4/3	(See description above.)	.555x.810	.640x.880	100	10	18
	SP1401D	6–4/2 4/3	6–4/2 4/3			.625x.875	.705x.960			
	SP1401H			10–8/2		.370x.620	.450x.700			
	**OVAL—1-IN. THREAD SIZE**									
	SP1402B	10–8/2 8/3	10–8/2 8/3	8–6/3 6/3		.500x.680	.580x.760			
	SP1402C	8–6/2 6/3	8–6/2 6/3	6–4/2 4/3		.555x.810	.640x.880			
	SP1402D	6–4/2 4/3	6–4/2 4/3		(See description above.)	.625x.875	.705x.960	100	10	22
	SP1402G	4/3		2/3		.590x.970	.680x1.060			
	SP1402H			10–8/2 8/3		.370x.620	.450x.700			
SP1401A-SP1402L	SP1402L	4–2/2 2/3	4–2/2 2/3	4–2/2 2/3		.670x1.030	.753x1.120			

SNAP-IN TYPE

Listed by the Underwriters' Laboratories, Inc.

Illustration	Cat. No.				Description and Use					
	**ROUND**									
	SP1405A	8/2	8/2	8/2	Snap into K.O. of meter box. Prongs hold connector tightly. Tighten both screws to make a watertight fit. No locknut needed in box. Malleable iron.	.430	.525	100	10	26
SP1405A-SP1405D	**OVAL**									
	SP1405C	6/3	6/3	6/3	(See description above.)	.555x.810	.640x.880	100	10	26
	SP1405D	4/3	4/3	4/3		.625x.875	.705x.960			

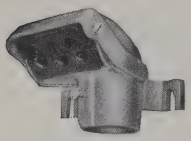
G-E ENTRANCE FITTINGS

For Service Entrance Cable

Federal Specifications — W-F-406, August 27, 1937

ENTRANCE CAPS

Listed by Underwriters' Laboratories, Inc.



SP1550

SP2000, SP2001

SP5550, SP5551

General Electric offers a wide variety of the popular types of entrance caps to meet local conditions which may arise.

Clamping screws hold cable and ground the cap to bare neutral. Weather-resistant construction, Heavy molded insulators — split to facilitate assembly Aluminum. SP2000 and SP2001 furnished in malleable iron only.

Aluminum

Cat. No.	Recommended for Use with	Carton	Std Pkg	Wt Lb Per 100
SP5550	12/2, 12/3, 10/2, 10/3, 8/2, 8/3	5	50	20
SP5551	8/3, 6/2, 6/3, 4/2, 4/3, 2/2	5	50	30
SP1550	4/3, 2/3	2	5	150
SP1552	4/2, 2/2, 6/3, 6/2, 8/3	2	5	70
SP1555	8/5, 6/5	5	50	55

Malleable Iron

SP2000	12/3, 12/2, 10/2, 10/3, 8/2, 8/3, 6/2, 6/3	5	50	20
SP2001	8/3, 6/2, 6/3, 4/2	5	50	31

FLANGED-TYPE ENTRANCE CAP

Listed by Underwriters' Laboratories, Inc.

SP1580

For use within a building or for installation on extensions between buildings.

It is corrosion resistant, has an insulator with five holes, two of which are plugged and a tapped hub in the back to take any ½-inch conduit or cable fitting. Aluminum.

Cat. No.	Recommended for Use with	Carton	Std Pkg	Wt Lb Per 100
SP1580	12/2, 10/2, 10/3, 8/2, 6/2, 12/3	6	24	38
SP1580C	12/2, 12/3, 10/2, 10/3, 8/2, 6/2. Has sealing compound for watertight fit	6	24	38

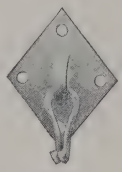
G-E ENTRANCE FITTINGS

For Service Entrance Cable

Federal Specifications — W-F-406, August 27, 1937

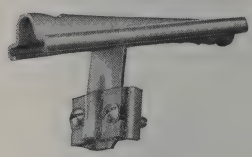
CAPPED CABLE SUPPORT, CABLE HOOK AND BAIL

Listed by Underwriters' Laboratories, Inc.



SP1350

SP1355



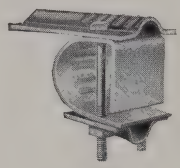
SP1363-SP1382

Cable supports with hook or bail secure cables to wall or to poles. Self-tightening supports. Steel.

Cat. No.	Carton	Std Pkg	Wt Lb Per 100
SP1350	10	50	45
SP1355	10	50	16
SP1363	10	50	100
SP1382	10	50	55

SERVICE CABLE SUPPORT

Listed by Underwriters' Laboratories, Inc.



SP32468

No. SP32468 support is universal in its use because of the wide range of entrance cables it will accommodate, thus eliminating the necessity of carrying a large stock of conventional cable supports. Use SP1350 Service Cable Hook and SP1355 Bail with this support.

Cat. No.	For	Std Pkg	Carton	Wt Lb Per 100
SP32468	3 No. 2, 3 No. 4 3 No. 6, 3 No. 8	50	30	155

SILL PLATES

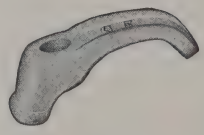
Listed by Underwriters' Laboratories, Inc.

G-E Sill plates are recommended for closing the holes in outside walls of buildings after service entrance cable is installed. They are corrosion-resistant and equipped with rust-proof screws. SP246C is available with waterproof compound.

SP246

Cat. No.	For	Std Pkg	Carton	Wt Lb Per 100
SP246		100	10	10
SP246C	All Sizes of Cable	100	10	12

CABLE STRAPS



SP1344

Takes wide range of Service Entrance Cables. Rocking action of the base provides a firm, tight grip on cable and wall. Malleable iron.

Cat. No.	Carton	Std Pkg	Wt Lb Per 100
SP1341	50	100	3
SP1344	50	100	5
SP1345	50	100	6½

GROUNDING AND BONDING

Excerpts from National Electrical Code (1951 Edition)

Note: Here are some of the more important paragraphs of Article 250. There are many other important paragraphs in Article 250, and in different sections of the Code on the subject of Grounding and Bonding which, for want of space, cannot be included here.

ARTICLE 250—GROUNDING

2501. Scope. This article treats of protection of electric installations by grounding. Insulation, isolation, and guarding are suitable alternatives under certain conditions.

Systems and Circuits

2511. Circuits. Circuits are grounded for the purpose of limiting the voltage upon the circuit which might otherwise occur through exposure to lightning or other voltages higher than that for which the circuit is designed; or to limit the maximum potential to ground due to normal voltage.

For instrument transformer grounding, see section 2621.

2512. Two-Wire Direct-Current Systems. Two-wire direct-current systems supplying interior wiring, and operating at not more than 300 volts between conductors, shall be grounded, unless such system is used for supplying industrial equipment in limited areas and the circuit is equipped with a ground detector.

It is recommended that 2-wire direct-current systems operating at more than 300 volts between conductors be grounded if a neutral point can be established such that the maximum difference of potential between the neutral point and any other point on the system does not exceed 300 volts. It is recommended that 2-wire direct-current systems be not grounded if the voltage to ground of either conductor would exceed 300 volts after grounding.

2513. Three-Wire Direct-Current Systems. The neutral conductor of all 3-wire direct-current systems supplying interior wiring shall be grounded.

2514. Alternating-Current Systems. Secondary alternating-current systems supplying interior wiring, and interior alternating-current wiring systems, shall be grounded if they can be so grounded that the maximum voltage to ground does not exceed 150 volts. Where a service conductor is uninsulated in accordance with section 2303, paragraph a, the system shall be grounded.

It is recommended that alternating-current be grounded as provided in this article where the voltage to ground does not exceed 300 volts. Higher voltage circuits may be grounded.

Conductor Enclosures

2531. Exposed Metal. Exposed conductive materials enclosing electric conductors are grounded for the purpose of preventing a potential above ground on the enclosures.

2532. Service Conductor Enclosures. Service raceways, service cable sheaths or armoring, if of metal, shall be grounded.

2533. Other Conductor Enclosures. Metal enclosures for conductors shall be grounded, except in runs of less than 25 feet which are free from probable contact with ground or grounded metal and which, if within reach from grounded surfaces, are guarded against contact by persons.

2534. Spacing from Lightning Rods. Metal enclosures of conductors shall, wherever practicable, be kept at least 6 feet away from lightning rod conductors. Where it is not practicable to secure 6 feet separation, they shall be bonded together.

Equipment

2541. Exposed Metal. Exposed conductive materials enclosing electric equipment, or forming a part of such equipment, are grounded for the purpose of preventing a potential above ground on the equipment.

2542. Fixed Equipment—General. Under any of the following conditions, exposed, non-current-carrying metal parts of fixed equipment, which are liable to become energized, shall be grounded:

a. If equipment is supplied by means of metal-clad wiring;

b. If equipment is located in a wet location and is not isolated;

c. If equipment is located within reach of a person who can make contact with any grounded surface or object;

d. If equipment is located within reach of a person standing on the ground;

e. If equipment is in a hazardous location; see Article 500;

f. If equipment is in electrical contact with metal or metal lath;

g. If equipment operates with any terminal at more than 150 volts to ground, except as follows:

1. Enclosures for switches or circuit breakers where accessible to qualified persons only;

2. Metal frames of electrically-heated devices, exempted by special permission, in which case the frames shall be permanently and effectively insulated from ground;

3. Transformers mounted on wooden poles at a height of more than 8 feet from the ground.

2543. Fixed Equipment — Specific. Exposed, non-current-carrying metal parts of the following kinds of equipment, regardless of voltage, shall be grounded:

a. Frames of motors as specified in section 4436;

b. Controller cases for motors, except lined covers of snap switches;

c. Electric equipment of elevators and cranes;

d. Electric equipment in garages, theatres and motion picture studios, except pendent lamps on circuits of not more than 150 volts to ground;

e. Motion-picture projection equipment;

f. Electric signs and associated equipment, unless these are inaccessible to unauthorized persons and are also insulated from ground and from other conductive objects;

g. Generator and motor frames in an electrically operated organ, unless the generator is effectively insulated both from the ground and from the motor driving it;

h. Switchboard frames and structures supporting switching equipment, except that frames of direct-current, single-polarity switchboards need not be grounded if effectively insulated;

i. X-ray tubes used in therapy. For exceptions see section 6633.

For instruments, meters and relays, see sections 2622 to 2624.

2544. Non-Electrical Equipment. The following metal parts shall be grounded:

a. Frames and tracks of electrically operated cranes;

b. The metal frame of a non-electrically driven elevator car to which electric conductors are attached;

c. Hand-operated metal shifting ropes or cables of electric elevators;

d. Metal enclosures such as partitions, grill work, etc., around equipment carrying voltages in excess of 750 volts between conductors, unless in substations or vaults under the sole control of the supply company.

GROUNDING AND BONDING

Excerpts from National Electrical Code (1951 Edition)

ARTICLE 250, Continued

2545. Portable Equipment. Under any of the following conditions, exposed non-current-carrying metal parts of portable equipment shall be grounded:

a. In hazardous locations;

b. If operated at more than 150 volts to ground, except:

1. Motors, if guarded;
2. Metal frames of electrically-heated appliances exempted by section 4238;
3. Enclosures for X-ray tubes used in therapy exempted by section 6633.

c. In other than residential occupancies, exposed metal parts of portable appliances used in damp or wet locations, or by persons standing on the ground or on metal floors or working inside of metal tanks or boilers, shall be grounded, except where supplied through an insulating transformer with ungrounded secondary of not over 50 volts.

This paragraph shall not be construed to prohibit the use of an insulating transformer with a secondary voltage greater than 50 volts, if the exposed metal parts of the appliance connected to such a transformer are grounded, and provided other conditions of this article are fulfilled.

It is recommended that the frames of all portable motors which operate at more than 50 volts and less than 150 volts to ground be grounded, where this can be readily accomplished.

2546. Spacing from Lightning Rods. Metal frames and cases of electric equipment shall, wherever practicable, be kept at least 6 feet away from lightning rod conductors. Where it is not practicable to secure 6 feet separation, they shall be bonded together.

BONDING

2571. Bonding at Service Equipment. Where the supply is from an overhead distribution system the electrical continuity of the grounding circuit for the following equipment and enclosures shall be assured by one of the means given in paragraph 2572:

a. The service raceways or service cable armor or sheath;

b. All service equipment enclosures containing service-entrance conductors, including meter fittings, boxes or the like, interposed in the service raceway or armor;

c. Any conduit or armor which forms part of the grounding conductor to the service raceway.

2572. Means of Assuring Continuity. Electrical continuity at service equipment shall be assured by one of the following means:

a. Bonding equipment to the grounded service conductor in a manner provided in section 2613.

b. Threaded couplings and threaded bosses on enclosures with joints made up tight where rigid conduit is involved.

c. Threadless couplings made up tight for electrical metallic tubing.

d. Bonding jumpers meeting the other requirements of this article. Bonding jumpers shall be used around concentric or eccentric knockouts which are punched or otherwise formed so as to impair the electrical connection to ground.

e. Other devices (not locknuts and bushings) approved for the purpose.

2573. Metal Armor or Tape of Service Cable. With service cable having an uninsulated grounded service conductor in continuous contact with its metallic armor or tape, the metal covering is considered to be adequately grounded.

2574. Voltages Exceeding 150 Volts. The electrical continuity of metal raceway or metal sheathed cable which contains any conductor of more than 150 volts to ground shall be assured by one of the methods specified in paragraphs b, c, d and e of section 2572, or by one of the following methods:

a. Threadless fittings, made up tight, with conduit or armored cable;

b. Two locknuts, one inside and one outside of boxes and cabinets.

2575. Loosely-Jointed Metal Raceways. Expansion joints and telescoping sections of raceways shall be made electrically continuous by bonding jumpers or other approved means. Metal trough raceways used in connection with sound recording and reproducing, made up in sections, shall contain a grounding conductor to which each section shall be bonded.

2576. Hazardous Locations. In hazardous locations, regardless of the voltage involved, the electrical continuity of metallic raceway, boxes and the like, shall be assured by one of the methods specified in sub-paragraphs b, d, and e of section 2572.

2577. Bonding Jumpers. Bonding jumpers shall conform to the following:

a. **Material and Size.** Bonding jumpers shall be of copper or other corrosive-resistant material and shall be of sufficient size to have current-carrying capacity not less than is required for the corresponding grounding conductor;

b. **Attachment.** Bonding jumpers shall be attached to cabinets and the like in a manner provided in section 2613; where used between grounding electrodes or around water meters, gas meters, and the like, they shall be attached in a manner provided for in section 2614.

Grounding Electrodes

2581. Water Pipe. A metallic underground water piping system, either local or supplying a community, shall always be used as the grounding electrode where such a piping system is available. If the buried portion of the metallic piping system is less than ten feet (including well casings bonded to the piping system) or there is some likelihood of the piping system being discontinued, it shall be supplemented by one or more of the grounding electrodes recognized in sections 2582 and 2583.

2582. Other Electrodes. Where a water piping system as described in section 2581 is not available, the grounding connection may be made to any of the following:

a. The metal frame of a building, if effectively grounded.

b. A continuous metallic underground gas piping system.

c. Other local metallic underground systems, such as piping, tanks, and the like.

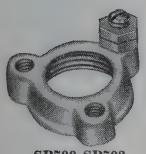
2615. Ground Clamps. For the grounding conductor of a wiring system the sheet-metal-strap type of ground clamp is not considered adequate unless it has a rigid metal base seated on the water pipe or other electrode and the strap is of such material and dimensions that it is not liable to stretch during or after installation.

Ground clamps for use on copper water tubing and copper, brass, or lead pipe should preferably be of copper, and those for use on galvanized or iron pipe should preferably be of galvanized iron and so designed as to avoid mechanical injury to pipe.

G-E GROUND FITTINGS

BONDING BUSHINGS

Malleable Iron


SP700-SP702

Provide bonding between conduit and cabinet and also allow for use of a jumper connection. Can be used either with or without grounding jumper. Malleable iron. Brass screws. SP700-702 have three threaded hubs, 2 nuts for retaining wire, brass screw.

Setscrew Type—Grounding Bushing

Cat. No.	Size	Std. Pkg.	Carton	Wt. Lbs. Per 100
SP700	½-inch	100	50	11
SP701	¾-inch	100	50	24
SP702	1-inch	50	25	16

UNIVERSAL BONDING BUSHINGS

Malleable Iron

SP724-SP730

Provide bonding between conduit and cabinet and also allow for use of jumper connection. Malleable iron. Brass screws. SP724-726 have two threaded hubs. SP727-730 have four threaded hubs. When binding screw is threaded into fitting, clip wedges into box for ground. Brass clips have upturned ears for retaining wire.

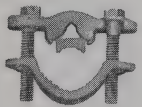
Grounding Bushing

Cat. No.	Size	Std. Pkg.	Carton	Wt. Lbs. Per 100
SP724	1¼-inch	50	25	18
SP725	1½-inch	50	25	20
SP726	2-inch	25	10	32
SP727	2½-inch	10	5	40
SP728	3-inch	10	5	50
SP729	3½-inch	5	1	100
SP730	4-inch	5	1	100

PRESSURE CONNECTOR GROUNDING FITTINGS

Malleable Iron

SP3962


SP2

SP3932

Cat. No.	Size in Inches	Std. Pkg.	Carton	Wt. Lbs. Per 100
SP3932	½, ¾, 1	25	5	68
SP3933	1¼, 1½	10	5	100
SP3942	½, ¾, 1	25	5	72
SP3943	1¼, 1½	10	5	100
SP3952	½, ¾, 1	10	5	80
SP3953	1¼, 1½	10	5	110
SP3962	½, ¾, 1	25	5	68
SP3972	½, ¾, 1	25	5	76
SP2	½, ¾, 1	25	5	38

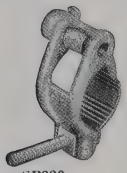
G-E FITTINGS FOR ARMORED CONDUCTORS AND FLEXIBLE CONDUIT

Federal Specifications — E-W-F-406, April 3, 1942

GROUND CLAMPS

Listed by Underwriters' Laboratories, Inc.

Malleable Iron


SP820

SP822

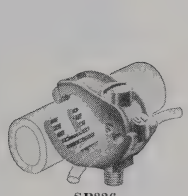
These malleable-iron clamps are designed for easy, permanent installation. The ground wire locks the jaw together and the bolt clamps them tightly on the waterpipe.

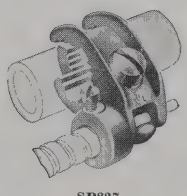
Cat. No.	Will Accommodate	Carton	Weight per 100
SP820	No. 8 or 6 Bare Armored Ground Wire to ½-in., ¾-in., or 1-in. water pipe with Set Screw to ground the armor. Also takes No. 4 Bare or Insulated Copper Ground Wire	5	32
SP822	Same as above with Adapter for Ground Rods from ½-in. up	5	36
SP821	No. 8, 6, or 4 Bare or Insulated Copper Wire to ½-in., ¾-in., or 1-in. water pipe. No Set Screw	5	36
SP823	Same as SP821 except with adapter for Ground Rods from ½-in. up	5	40

Standard package, 25.

GROUND CLAMPS

Listed by Underwriters' Laboratories, Inc.


SP826


SP827

Simple one-piece design — no loose parts — one screw tightens both jaws. Easy to install. Grounds securely. Rugged bronze construction. Right size —fits ½- to ¾-in. copper tubing water pipe or ground rod.

Right wire range—SP826 holds No. 4 or No. 6 Awg bare grounding wire, SP827 holds No. 4, No. 6 or No. 8 Awg armored grounding wire.

Cat. No.	Std. Pkg.	Carton Quan.	Wt. Lbs. Per 100
SP826	50	5	17
SP827	50	5	21

O. Z. GROUNDING DEVICES

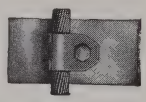
TYPE "CG" GROUND CONNECTORS

A Ground Connector having a reversible plate which permits the ground wire to be connected either at right angles or parallel to a ground pipe.

IPS In.	Conductor Range Minimum	Conductor Range Maximum	Cat. No.	Price Each
2	#8 Sol.	#4 Str.	CG2004	$2.40
2	4 Sol.	2/0 Str.	CG2002	2.70
2	2/0 Sol.	250 Mcm	CG2025	3.05
2	300 Mcm	500 Mcm	CG2050	4.20
2½	8 Sol.	4 Str.	CG2604	2.95
2½	4 Sol.	2/0 Str.	CG2622	3.25
2½	2/0 Sol.	250 Mcm	CG2625	3.40
2½	300 Mcm	500 Mcm	CG2650	4.65
3	8 Sol.	4 Str.	CG3104	3.60
3	4 Sol.	2/0 Str.	CG3122	4.05
3	2/0 Sol.	250 Mcm	CG3125	4.35
3	300 Mcm	500 Mcm	CG3150	5.60
3½	8 Sol.	4 Str.	CG3604	4.05
3½	4 Sol.	2/0 Str.	CG3622	4.50
3½	2/0 Sol.	250 Mcm	CG3625	4.80
3½	300 Mcm	500 Mcm	CG3650	6.15
4	8 Sol.	4 Str.	CG4104	4.65
4	4 Sol.	2/0 Str.	CG4122	5.30
4	2/0 Sol.	250 Mcm	CG4125	5.75
4	300 Mcm	500 Mcm	CG4150	7.25
4½	4 Sol.	2/0 Str.	CG4622	5.85
4½	2/0 Sol.	250 Mcm	CG4625	6.30
4½	300 Mcm	500 Mcm	CG4650	7.85
5	4 Sol.	2/0 Str.	CG5122	6.60
5	2/0 Sol.	250 Mcm	CG5125	7.25
5	300 Mcm	500 Mcm	CG5150	8.95
6	4 Sol.	2/0 Str.	CG6122	7.95
6	2/0 Sol.	250 Mcm	CG6125	8.10
6	300 Mcm	500 Mcm	CG6150	10.65
8	2/0 Sol.	250 Mcm	CG8125	11.50
8	300 Mcm	500 Mcm	CG8150	14.05

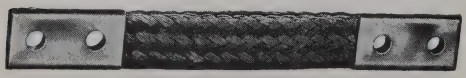
TYPE "KG" GROUNDING CONNECTOR

For Cable to Flat Bar



Conductor Range Minimum	Conductor Range Maximum	Cat. No.	Price Each
#8 Sol.	#4 Str.	KG04	$ 0.80
4 Sol.	2/0 Str.	KG22	.85
2/0 Sol.	250 Mcm	KG25	1.70
300 Mcm	500 Mcm	KG50	2.40
550 Mcm	750 Mcm	KG75	3.60
800 Mcm	1000 Mcm	KG92	4.20

FLEXIBLE COPPER BRAID CONNECTORS

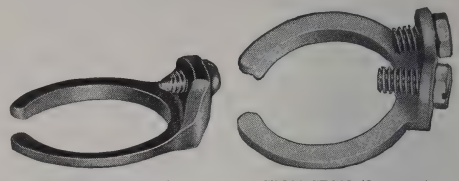


Ferruled braid, furnished tinned or untinned as ordered; available singly or in multiple, in any width or length according to current carrying capacity requirements; copper ferrules drilled or undrilled as specified.

Prices on request.

G-E GROUND FITTINGS

BONDING WEDGES



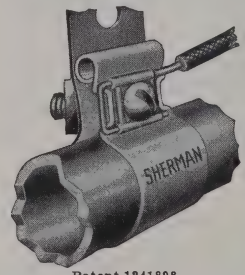
SP900 (1 screw) SP901-SP912 (2 screws)

These wedges permanently lock the system together both electrically and mechanically, thus eliminating the necessity for a jumper.

Cat. No.	Size	Std. Pkg.	Carton	Wt. Lbs. Per 100
SP900	½-inch	100	50	2½
SP901	¾-inch	100	50	5½
SP902	1-inch	50	25	8
SP903	1¼-inch	50	25	9
SP904	1½-inch	50	25	10½
SP905	2-inch	25	10	16
SP906	2½-inch	10	5	20
SP907	3-inch	10	5	24
SP908	3½-inch	5	2	40
SP909	4-inch	5	2	60
SP911	5-inch	2	2	100
SP912	6-inch	2	2	100

SHERMAN GROUND CLAMPS

Approved by Underwriters' Laboratories



Patent 1241898

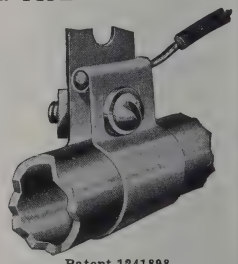
SOLDERLESS TYPE

For general grounding or bonding of electrical conductors. Heavy copper strap. Easy to apply. Can be used as solder connection by placing up to No. 3 wire in rolled portion. Takes up to No. 8 wire for solderless connection.

Part No.	Pipe Size	Carton Qty.	Std. Pkg. Qty.	Wt. Lbs. Per 1000
1 SL	⅜-1	100	1000	80
2 SL	⅜-2	100	1000	130
3 SL	⅜-3	50	500	170
4 SL	⅜-4	25	250	200

SOLDER TYPE

For general grounding or bonding of electrical conductors. Heavy pure copper strap, easy to apply. Can be used with or without soldering, but approved for use with soldering only. Bolt head will not tear out of strap. Wire, not exceeding No. 3 AWG solid in size, can be clamped in roll portion before soldering.



Patent 1241898

Part No.	Pipe Size	Carton Qty.	Std. Pkg. Qty.	Wt. Lbs. Per 1000
1	⅜-1	100	1000	80
2	⅜-2	100	1000	130
3	⅜-3	50	500	160
4	⅜-4	25	250	190

DIAMOND MALLEABLE CLAMPS

ONE HOLE

For conduit pipe and cable. Made of high grade malleable iron hot dip galvanized. These clamps are of heavy design intended for heavy duty.

Specify Type "S" for thinwall tubing.

For Standard Conduit—Order by Pipe Size

Cat. No.	Pipe Size	Cable Size	Std. Pkg.	Cat. No.	Pipe Size	Cable Size	Std. Pkg.
MC-25	¼	.50	100	MC-150	1½	1.90	50
MC-38	⅜	.67	100	MC-200	2	2.37	50
MC-50	½	.84	100	MC-250	2½	2.87	50
MC-75	¾	1.05	100	MC-300	3	3.50	35
MC-100	1	1.31	100	MC-350	3½	4.00	25
MC-125	1¼	1.66	50	MC-400	4	4.50	25

For Thinwall Conduit (EMT)

MC-50S	½	.706	100	MC-125S	1¼	1.508	50
MC-75S	¾	.922	100	MC-150S	1½	1.738	50
MC-100S	1	1.163	100	MC-200S	2	2.195	50

Order by pipe size.

DIAMOND ONE-HOLE STEEL CLAMPS

Light pattern one-hole steel clamp made of cold rolled mild steel annealed and Diamond hot galvanizing after forming.

One Hole Standard Type

Cat. No.	Size, Ins. Cables	Pipe	Thinwall Conduit	Size Stock Inches	Shpg. Wt. Lbs. Per 100	Price Per 100
L-3	3/16	-----	-----	½x.072	1	$0.60
L-4	¼	-----	-----	½x.062	1	.75
L-5	5/16	-----	-----	½x.062	1	.85
L-6	⅜	⅛	-----	½x.048	1	.95
L-7	7/16	-----	-----	½x.048	1.1	1.05
L-8	½	¼	⅜	½x.048	1.2	1.15
L-9	9/16	-----	-----	½x.048	1.2	1.20
L-10	⅝	-----	-----	½x.048	1.3	1.25
L-11	11/16	⅜	½	⅝x.062	4	2.25
L-12	¾	½	-----	11/16x.062	4.5	2.85
L-14	⅞	-----	¾	11/16x.062	5.0	3.00
L-16	1	¾	-----	¾x.080	7.0	3.45
L-18	1⅛	-----	1	¾x.080	7.5	3.60
L-20	1¼	1	-----	⅞x.115	15	4.95
L-24	1½	-----	1¼	⅞x.115	16	6.65
L-26	1⅝	1¼	-----	⅞x.115	17	7.10
L-28	1¾	-----	1½	⅞x.115	19	7.30
L-30	1⅞	1½	-----	⅞x.115	20	7.45

Standard package L3-L14 500 pcs., L16-L18 250 pcs., L20-L30 100 pcs.

One Hole Offset Type

Cat. No.	Cable Size Min.	Max.	Pipe Size Inches	Size Stock Inches	Shpg. Wt. Lbs. Per 100	Price Per 100
403	5/32	7/32	-----	5/16x.048	.4	$0.35
405	¼	5/16	-----	5/16x.048	.5	.40
406	5/16	⅜	-----	½x.048	1	.60
407	⅜	½	⅛	½x.048	1.1	.65
408	½	9/16	¼	½x.048	1.2	.70
409	9/16	⅝	-----	¾x.060	2.5	1.25
411	⅝	11/16	⅜	¾x.060	2.87	1.50
413	¾	⅞	½	¾x.078	4.12	2.50
417	1	1⅛	¾	¾x.078	5.31	2.90
421	1⅛	1½	1	¾x.115	9.75	4.30
425	1½	1¾	1¼	¾x.115	10.62	5.00
430	1 13/16	2	1½	¾x.115	12.43	5.50
435	2⅛	2⅜	2	¾x.130	16	7.50
442	2½	2⅞	2½	¾x.130	18.43	8.50

This clamp has greater latitude in sizes of cable or conduit and will accommodate; starting in offset position down to position where tail is flat on surface.

DI◇STAMPT CONDUIT CLAMPS

Pressed steel, hot dipped galvanized. The hollow or arched section of this clamp gives maximum strength with minimum weight. Made in all sizes for conduit ¼-inch to 1½-inch.

Cat. No.	Pipe Size Inches	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
DC- 25	¼*	100	3	$2.69
DC- 38	⅜*	100	3	2.69
DC- 50	½	100	5	3.34
DC- 75	¾	100	8	4.30
DC-100	1	100	9	6.69
DC-125	1¼	100	20	11.16
DC-150	1½	50	36	17.85

*Made in flat stock only.

DIAMOND TWO-HOLE CONDUIT AND CABLE STRAPS

Hot galvanized. Designed to withstand heavy strains and vibration. They should not be confused with the ordinary thin pipe straps often used for this purpose. A fewer number need be used in conduit or cable runs.

Standard Type

Cat. No.	Cable Size In.	Pipe Size In.	Stock Size Inches	Shpg. Wt. Lbs. Per 100	Price Per 100
T7	7/16	⅛	½x.048	1.5	$1.50
T10	⅝	¼	½x.048	2	1.65
T11	11/16	⅜	⅝x.062	3.2	3.00
T12	¾	----	11/16x.062	4.1	3.15
T14	⅞	½	11/16x.062	4.4	3.75
T16	1	----	¾x.080	6.9	4.65
T18	1⅛	¾	¾x.080	7.3	5.10
T20	1¼	1	⅞x ⅛	13.5	7.50
T24	1½	----	⅞x ⅛	15.25	9.00
T26	1⅝	1¼	⅞x ⅛	16.5	9.60
T28	1¾	----	⅞x ⅛	17	10.20
T30	1⅞	1½	⅞x ⅛	19	10.80
T40	2½	2	⅛x1	26	17.30
T46	2⅞	2½	⅛x1	31	20.40
T56	3½	3	⅛x1	35	23.50

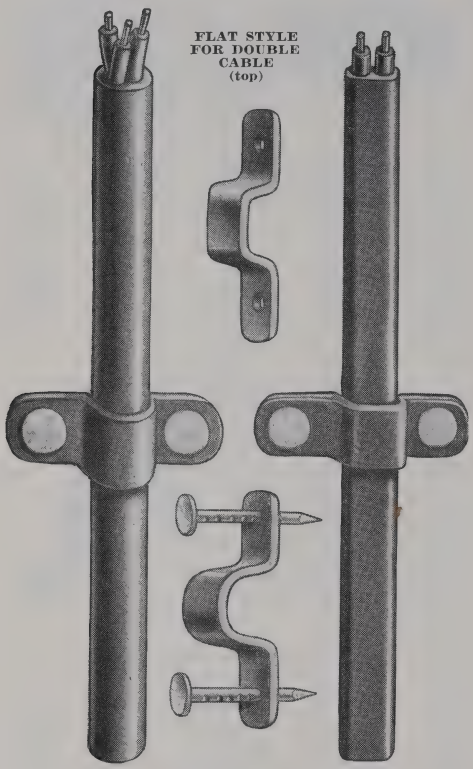
Extra Heavy Type

N1	7/16	⅛	1	x	1/16	4.5	$2.60
N2	⅝	¼	1	x	1/16	5.5	3.00
N3	11/16	⅜	1	x	1/16	6.7	3.50
N4	¾	----	1	x	1/16	7.1	3.70
N5	⅞	½	1	x	1/16	7.7	3.90
N6	1	----	1	x	1/16	8.3	4.75
N7	1⅛	¾	1	x	⅛	17.9	7.20
N8	1¼	1	1	x	⅛	19.2	8.35
N9	1½	----	1	x	⅛	21.5	9.50
N10	1¾	----	1	x	⅛	23.5	10.65
N11	1⅞	----	1	x	⅛	24.7	11.25
N12	2	----	1	x	⅛	26.0	11.80
N13	2⅛	----	1	x	⅛	27.2	12.40
N14	2¼	----	1	x	⅛	28.5	13.00

Order by Cat. No.

Two-hole straps, offset type, are available. Prices on request.

NON-CORROSIVE PLASTIC STRAPS



Fire Protection — especially Barns. Long life installation for all types, open wires, cables, cords. No Cutting Edges. Thick, pliable—edges rounded. Far safer if sway or vibration. No rusting or corroding under wet or acid conditions, as with Livestock. Complies with REA Farmstead Wiring requirements for non-corrosive strap in all wet, acid and corrosive locations to fasten Neoprene jacketed wires. No. 12 x 1 inch Copper Slating nail recommended.

Two Styles: accommodate all sizes, types standard cable and wire—Neoprene, Romex, telephone, radio, control wires, cords, barn wiring, entrance cables, etc.

Unusual strength by test, slightly flexible.

Specifications

Cat. No.	Size Opening Inches	Length Overall	Width Inch	Thickness in In.
CPC-PBD	¼ x 7/16	1⅝	½	1/16
CPC-PBT	7/16 x 7/16	1¾	½	1/16

Shipping and Prices

Cat. No.	Wt. Lbs. Per 1000	Price, Per 1000 — 50,000 Lots	Std. Pkg. 10,000	Broken Pkgs. 1000 to 9999
CPC-PBD	2½	**$7.50**	**$8.25**	**$8.65**
CPC-PBT	3	**8.40**	**9.25**	**9.75**

PAINE STRAPS AND CLAMPS

PIPE STRAPS

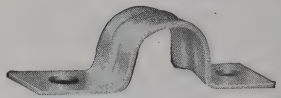


Fig. 700 — 2 Hole

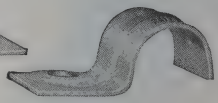


Fig. 701 — 2 Hole

For supporting thin and thick wall pipe, conduit and armored cables.

Packed 5, 25 lb. boxes — 50 and 100 lb. bags.

Size	Pieces per Lb. — 1 Hole	2 Hole	Gauge Material	Hole Size	Inside Dia. of Strap
⅛	-----	120	22	5/32	.405
Baby BX	-----	124	22	5/32	.540
Romex	108	78	22	5/32	-----
¼	70	65	22	5/32	.540
⅜	60	54	22	¼	.675
½ EMT	60	54	22	3/16	.675
½	46	41	22	¼	.840
¾ EMT	32	26	20	¼	.9375
¾	30	24	20	¼	1.050
1 EMT	----	26	20	¼	1.1875
1	----	13	18	¼	1.315
1¼ EMT	----	13	18	¼	1.500
1¼	----	12	18	¼	1.660
1½ EMT	----	12	18	¼	1.660
1½	----	11	18	¼	1.900
2	----	9	18	5/32	2.375
2½	----	8	18	5/32	2.875
3	----	7	18	5/32	3.500
3½	----	6	18	5/32	4.000
4	----	5	18	5/32	4.500

PAINE 1-HOLE AND 2-HOLE BRAIDX STRAPS

Fig. 201 — 2 Hole

Fig. 201 — 1 Hole

For 14-2, 12-2 and 10-2 wire see table above for specifications.

PAINE No. 445 CONDUIT CLAMPS

Correct size stove bolts included with each clamp. All clamps are rust proofed and are designed to permanently hold or secure with or without porcelain bushings, thin wall or rigid conduit, armored cable and pipe.

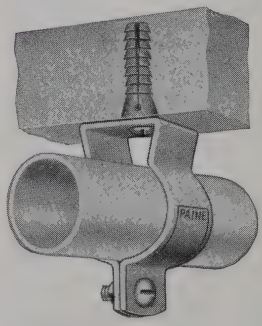


Illustration showing clamp anchored with Paine Wood-screw Lead Anchor, Fig. 950, in concrete.

Fig. 445

Cat. No.	Size Conduit — Rigid	Thin Wall	Outside Dia. of Conduit — Rigid	Thin Wall	Unit Pkg.	Lbs. Per Unit	Price Per 100
0	½–⅜	½	.675–.840	.706	50	4	**$6.85**
1	¾	¾	1.050	.922	50	4½	**6.95**
2	1	1	1.315	1.163	50	5¾	**7.60**
3	1¼	1¼	1.660	1.603	50	6	**9.15**
4	1½	1½	1.900	1.738	50	7¾	**10.65**
5	2	2	2.375	2.195	25	6	**12.95**
6	2 ½	-----	2.875	-----	25	7¼	**14.30**

PAINE HANGER IRON

SALE-MAKING DEALER DISPLAY

COILED PERFORATED HANGER IRON

This Sale-Making Merchandiser is designed and furnished to step up your sale of Hanger Iron. Attractively packaged for display and use, Paine Coiled Perforated Hanger Iron is a sale-promoting item.

Merchandiser features 24 individually boxed 10 ft. coils ¾-inch 20-gauge zinc plated.

Specifications: Bolt size ¼ inch; hole centers ½ inch. Safe load 500 lbs.; weight 20 lbs. per Merchandiser.

Price, Per 24 Unit Merchandiser.....list **$9.36**

PERFORATED HANGER IRON

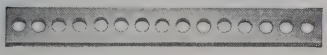


Fig. 500

For supporting pipe, cable, conduit, fluorescent lighting fixtures and many other devices.

No.	Width In.	Ga.	List Price 1000 Feet Black	List Price 1000 Feet Galv.	Bolt Size	Hole Centers	Safe Load Lbs.	Wt. Lb. Per M Feet
00	¾	18	**$46.25**	**$92.50**	¼"	½"	520	102
0	¾	16	**52.50**	**102.25**	¼"	½"	540	130
1	⅞	16	**58.50**	**117.00**	¼"	½"	685	160
2	1	14	**70.75**	**141.50**	5/16"	⅝"	975	250
3	1⅛	12	**113.50**	**227.00**	⅜"	¾"	1350	340
4	1¼	12	**126.50**	**253.00**	⅜"	¾"	1580	380

Packed in 10 ft. straight lengths. Special perforations or special sizes — prices on request.

Fig. 500-A

COILED PERFORATED HANGER IRON

Coils are zinc plated — packed 1000 ft (100—10-ft. coils) in bag.

No.	Width Inches	Gauge	List Price per M Feet	Bolt Size In.	C to C of Holes	Safe Load Lbs.	Wt. Lbs. M Feet
000	¾	20	**$42.50**	¼	½"	500	80
1A	⅞	16	**70.00**	¼	½"	685	160

PAINE FLATTENED END LAG SCREWS

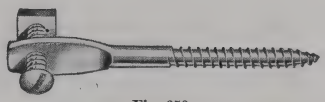


Fig. 650

Made from finest quality steel; precision rolled, gimlet pointed and equipped with stove bolt at flattened end. Accurately threaded for use with malleable shield. Packed 50 to box.

Cat. No.	Size Inches	Price Per 100	Wt. Lbs. Per 1000	Size Bolt Used, In.
0	¼x3	**$8.00**	40	3/16x¾
1	5/16x3½	**10.00**	77½	¼x¾
2	⅜x4	**12.00**	110	¼x¾
3	½x5	**16.00**	245	5/16x¾

PAINE HANGER RINGS AND BOLTS

Fig. 600

Paine Hanger Rings and Bolts are manufactured from black steel — plated after fabrication. These Hanger Rings and Bolts are equipped with precision threaded bolt and nut. For supporting pipe, conduit and armored cable — 14 different sizes to fit various diameters. Pipe or conduit size marked on each ring.

Ring for Pipe Size	List Price Per 100	Width of Steel	Gauge of Steel	Size of Bolt Inches	Wt. Lbs. Per 100
⅜	**$6.30**	½	16	3/16 x ¾	4
½	**8.75**	⅞	16	¼ x ¾	9
¾	**8.75**	⅞	16	¼ x ¾	10
1	**10.30**	⅞	16	¼ x ¾	12
1¼	**11.00**	⅞	16	¼ x ¾	13
1½	**11.60**	⅞	16	¼ x ¾	15
2	**13.40**	⅞	16	¼ x ¾	25
2½	**20.85**	1⅛	14	¼ x ¾	32
3	**23.70**	1⅛	14	5/16 x ¾	37
3½	**25.50**	1⅛	14	5/16 x ¾	41
4	**28.60**	1⅛	14	5/16 x ¾	45
5	**33.40**	1⅛	14	5/16 x ¾	53
6	**37.90**	1⅛	14	5/16 x ¾	64
8	**125.50**	1⅛	11	⅜ x 1	125

Packed: ⅜ to 1½-in., 50 to a box; 2 to 2½-in., 25 in a box. 3-in. and larger packed in bags.

T & B ADJUSTABLE CONDUIT HANGERS

Approved by Underwriters' Laboratories

These hangers will fit any flange from 2¾ to 12 inches. They are universal in the range of beam flanges they will fit, the number of pipes they will accommodate, and the various angles at which the pipe may be run. They are adjustable for varying plaster lines, and will support any number of conduits from one to four.

BEAM CLAMPS

No. 700—Fits flanges from 2¾ to 7⅜ inches, including bolts; standard package, 100. Weight per 100, 33 pounds.

Price per 100....**$225.00**

No. 701—Fits flanges from 7 to 12 ins., including bolts; standard package, 100; Weight, 58 lbs. Price per 100.....**$350.00**

No. 703—Bolt and 3 nuts, standard package 100; weight, 6 lbs. Price per 100.....**$38.00**

STEEL SUPPORTS

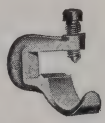
Cat. No.	Size Conduit Inches	Standard Package	Wt. Lbs. Per 100	Price Per 100
733	1–½	100	12	**$63.00**
734	1–¾	100	13	**76.00**
735	1–1	50	15	**125.00**
736	1–1¼	50	18	**140.00**
737	1–1½	25	19	**155.00**
738	1–2	25	23	**255.00**
739	1–2½	25	26	**280.00**
740	1–3	25	30	**326.00**

MALLEABLE IRON SUPPORTS

741	2–½	100	25	**130.00**
743	2–¾	50	32	**150.00**
745	2–1	25	40	**255.00**
746	2–1¼	25	52	**330.00**
747	2–1½	25	62	**370.00**
742	4–½	100	39	**215.00**
744	4–¾	50	47	**325.00**

CONDUIT SUPPORTS

These supports will fit any beam flange up to ⅝-inch thick. They can be used on all the popular sizes and types of beams. The pointed set screw bites into the beam, insuring permanent tightness and a good electrical ground.



Cat. No.	Size for Conduit, Inches	Unit Pkg.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
690	½	10	100	40	**$215.00**
691	¾	10	100	43	**240.00**
692	1	10	50	55	**250.00**
693	1¼	10	50	60	**350.00**

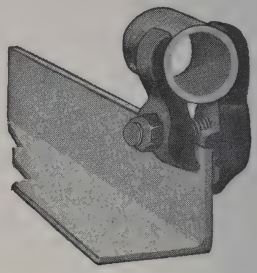
MINERALLAC BEAM CLAMPS

Used with Minerallac Hangers—Gang Straps—etc. Made of heavy gauge pressed steel, zinc plated. Come complete with case hardened set screw. Fits up to ½-inch thick Beam Flange —¼-20 tapped holes.

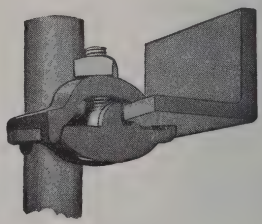
Cat. No.	Std. Pkg.	Std. Pkg. Wt. Lbs.	Price Per 100
600	50	6½	**$15.00**

KORNS CONDUIT SUPPORTS

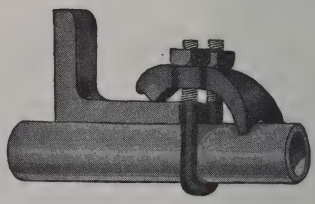
The pipe or conduit supports are especially designed malleable iron fixtures with a piece of tempered tool steel in one end so arranged that sharp edge of steel is forced into the structural steel member to which it is attached. Pipe or conduit can be easily and securely attached to the steel frame work of buildings without drilling holes.



Parallel Conduit Supports



Edge Type Conduit Supports



Right Angle Conduit Supports

No drilling holes. Avoid loose and sagging pipe work. Eliminate the necessity of designing and making forgings, hook bolt straps and other special rigging. For either permanent or temporary work.

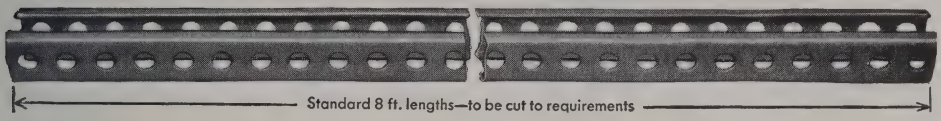
LIST PRICE CONDUIT SUPPORTS EITHER TYPE

Standard Pipe Size	List Price Per 100	Standard Pipe Size	List Price Per 100
⅜-inch	**$22.00**	2 -inch	**$46.00**
½-inch	**27.00**	2½-inch	**59.00**
¾-inch	**28.00**	3 -inch	**72.00**
1 -inch	**30.00**	3½-inch	**88.00**
1¼-inch	**34.00**	4 -inch	**100.00**
1½-inch	**39.00**	----------	----------

KINDORF DEVICES

No. 100 KINDORF CHANNEL

12 gauge steel—Wt. 0.6 lbs. per ft.—80 ft. per pkg. (bundle)
8 ft. lengths standard—other lengths to order
All holes $\frac{17}{32}$" diam.—on 1-inch centers
Price Per 100 Ft.—Electro-Galv.—$25.00



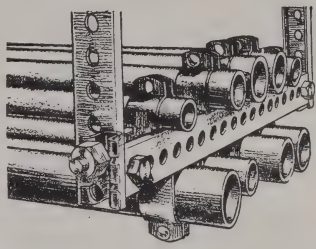
No. 101 CHANNEL TYPE SPACER

⅛" steel—Wt. 0.16 lbs.—100 per pkg.

Used with two sections of CHANNEL to form an assembly with two continuous slots which accept KINDORF Pipe or Conduit STRAPS—and connects to suspended CHANNEL supports in one or several tiers.

To install use 2–½" x 2¼" Bolts.

Price Per 100—Electro-Galv. **$14.00**



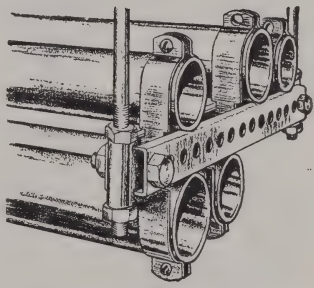
No. 102 BOLT TYPE SPACER

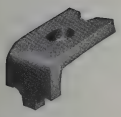
⅛" steel—Wt. 0.19 lbs.—100 per pkg.

Used with two sections of CHANNEL to form an assembly with two continuous slots which accept KINDORF Pipe or Conduit STRAPS. May be suspended by hanger rods or fastened to studs for ceiling runs, for vertical or horizontal wall runs.

To install use 1–½" x 2¼" Bolt.

Price Per 100—Electro-Galv. **$14.00**





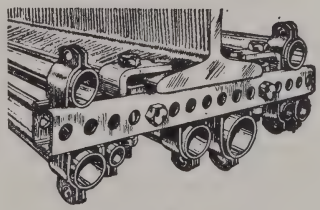
No. 103 BEAM CLAMP

$\frac{5}{16}$" steel—Wt. 0.28 lbs.—100 per pkg.

Used with two sections of No. 100 CHANNEL and two No. 102 BOLT SPACERS to form an assembly with slots (for Kindorf Straps), which clamps to all sizes of I-beams where edge of beam-flange does not exceed .80 inch thickness.

To install use 1–½" x 3½" Bolt.

Price Per 100—Electro-Galv. **$16.00**



No. 104 ANGLE CONNECTOR

¼" steel—Wt. 0.33 lbs.—100 per pkg.

Used to connect suspended CHANNEL to ½" studs. It is recommended that only short studs be used. Note the vertical adjustment provided. Also used as a side beam clamp, etc.

To install use 1–½"x 1" Bolt.

Price Per 100—Electro-Galv. **$17.00**

All Combinations of Above Fittings Assemble with Only 3 Lengths of ½" Bolts

KINDORF DEVICES

These straps fit in slot of No. 100 Channel Assembly or No. 140 Hangers and holds conduit rigidly in place. Straps furnished with ⅜" x 1¼" round head machine screw and nut.

Straps made of ⅛" x 1¼" steel.

No. 105 RIGID CONDUIT STRAPS

Conduit Size	Units per Package	Wt. Lbs. per 100	Price per 100 Electro-Galv.
⅜"	100	19	**$15.00**
½"	100	21	**17.00**
¾"	100	23	**19.00**
1 "	100	26	**21.00**
1¼"	100	29	**24.00**
1½"	100	32	**27.00**
2 "	100	37	**30.00**
2½"	100	43	**34.00**
3 "	100	51	**38.00**
3½"	50	58	**42.00**
4 "	50	65	**46.00**
5 "	50	75	**50.00**
6 "	50	89	**55.00**
8 "	50	100	**65.00**

No. 106 THIN-WALL TUBING STRAPS

Tubing Size	Units per Package	Wt. Lbs. per 100	Price per 100 Electro-Galv.
¾"	100	15	**$15.00**
½"	100	17	**17.00**
¾"	100	19	**19.00**
1 "	100	21	**21.00**
1¼"	100	24	**24.00**
1½"	100	27	**27.00**
2 "	100	32	**30.00**

No. 113 HEX HEAD MACHINE BOLTS (Less Nuts)

Size	Units per Package	Wt. Lbs. per 100	Price per 100 Electro-Galv.
½" x 1 "	100	9.55	**$6.00**
½" x 2¼"	100	16.05	**9.00**
½" x 3½"	100	22.90	**12.00**

No. 114 HEAVY HEXAGON ½" NUTS

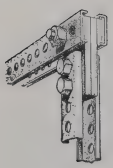
Price Per 100—Electro-Galv.—$5.00

No. 120—SADDLE TYPE SPACER

Permits ½" hanger rod to be suspended from any point in slot of No. 100 CHANNEL assembly.

Price Per 100—Electro-Galv.—**$7.00**

No. 122—"T" TYPE SPACER



Used to support an assembly of No. 100 Channel with vertical slot, from a horizontal assembly of No. 100 Channel. Spacer is slotted for adjustment to any position.

Weight—1.6 lbs. each.

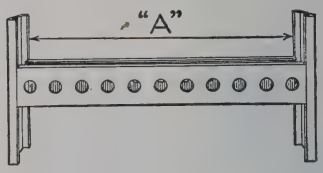
Price Per 100—Electro-Galv.—$130.00

LOAD-SPAN TABLE

For No. 100 Kindorf Channel

Span Length "A"	Deflection in Inches	Uniformly Distributed Load—Standard Span	Uniformly Distributed Load—Doubled Span
12"	0.033	3000 lbs.*	3000 lbs.*
18"	0.05	2200 lbs.	3000 lbs.*
24"	0.066	1700 lbs.	3000 lbs.
30"	0.083	1300 lbs.	2600 lbs.
36"	0.1	1000 lbs.	1850 lbs.
42"	0.117	800 lbs.	1400 lbs.
48"	0.133	650 lbs.	1100 lbs.
54"	0.150	550 lbs.	900 lbs.
60"	0.167	450 lbs.	750 lbs.
66"	0.183	400 lbs.	650 lbs.
72"	0.2	350 lbs.	600 lbs.

*Ratings limited to 3000 lbs. due to tensile strength of standard vertical supports.



For concentrated center load divide above ratings by two (2).

Spans more than 18" long shall have through-bolts 15" apart and not more than 15" from each end.

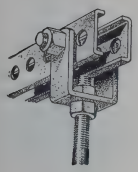
RIGID CONDUIT DATA

Nominal Size Rigid Conduit	Outside Diameter of Conduit	Maximum Weight Lbs. per Foot*
½"	.840"	1.172
¾"	1.050"	1.754
1 "	1.315"	2.614
1¼"	1.660"	4.311
1½"	1.900"	5.891
2 "	2.375"	8.528
2½"	2.875"	11.509
3 "	3.500"	16.506
3½"	4.000"	19.052
4 "	4.500"	24.749
5 "	5.563"	35.870
6 "	6.625"	50.685

*Maximum weight equals weight of Rigid Conduit plus weight of heaviest Conductor Combination.

KINDORF DEVICES

No. 126 SWING CONNECTOR



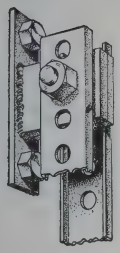
Swivel bolt furnished with lock-type nuts.

Maximum recommended load rating 1200 lbs.

Weight 0.65 lbs. each.

Price per 100—
Electro-Galv. $52.00

No. 134 WALL BRACKET



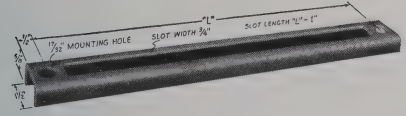
Used in a No. 100 Channel Assembly for supporting heavy horizontal runs of conduit.

Made of welded steel.

Weight 1.6 lbs. each.

Pirce per 100—
Electro-Galv. $105.00

No. 140 SLOTTED CONDUIT HANGER

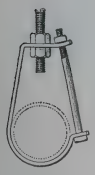


To be used with No. 105 or No. 106 straps to support conduit, etc.

Packed 50 per package.

Size Length "L"	Uniformly Distributed Load Rating	Wt. Lbs. per 100	Price per 100 Electro-Galv.
6"	640	44	$23.00
8"	480	50	28.00
12"	320	70	38.00
16"	240	85	48.00
20"	180	100	58.00
24"	160	120	68.00

No. 150 ADJUSTABLE CONDUIT HANGER

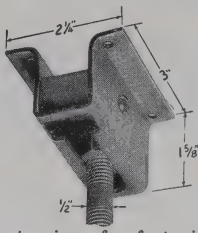


1. Provides temporary support—saves time.
2. Vertical adjustment range of 1½" or more.
3. Easily adjusted after pipe is in place.
4. No loosening due to vibration.

All Hangers made for ½" rods. Hanger Rod and Hanger Rod Nuts to be ordered separately.

Size Conduit	Units per Package	Wt. Lbs. per 100	Price per 100 Electro-Galv.
½"	50	40	$27.00
¾"	50	44	29.00
1 "	50	46	31.00
1¼"	50	48	33.00
1½"	50	52	36.00
2 "	50	56	37.00
2½"	50	96	51.00
3 "	50	108	56.00
3½"	20	115	61.00
4 "	20	165	80.00
5 "	20	185	87.00
6 "	20	225	102.00
8 "	20	350	160.00

No. 155 CONCRETE INSERT (Steel)



Weight 0.54 lbs. each.

50 per pkg.

Easily nailed in place with 8-penny nails.

Lateral adjustment 1¼ inches.

No. 155 INSERT can be furnished with base extensions for fastening to forms with screws or bolts.

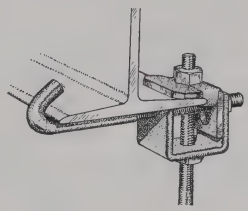
Price per 100—Galvanized.....$25.00

Price per 100—with Base Extensions—
Galvanized 30.00

No. 157 SQUARE ½" INSERT NUT
Price per 100—Electro-Galv. $5.00

No. 158 SPECIAL ⅜" INSERT NUT
Price per 100—Electro-Galv. $5.00

No. 160 ADJUSTABLE BEAM CLAMP



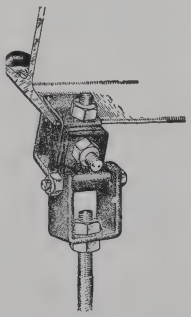
Clamps solidly to all sizes and types of I-beams where edge of beam-flange does not exceed .80-inch thickness.

Hook Rod is furnished in standard length of 8" with 4¾" of thread, to fit all beams up to 6" flange width.

½" hanger rods and nuts to be ordered separately.

Approx. weight 1.0 lb. Packed 25 per package. LOAD RATING=500 lbs.

Price per 100—Electro-Galv. $65.00



No. 165 BEAM CLAMP—WITH SWING CONNECTOR

BEAM CLAMP identical with No. 160 above, with SWING CONNECTOR added.

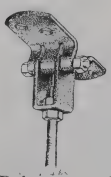
Eliminates bending of hanger rod — when suspending from purlins.

½" hanger rod and nuts to be ordered separately.

Approx. weight 1.8 lbs. Packed 25 per package.

Price per 100—
Electro-Galv. $125.00

No. 170 SWINGING HANGER FLANGE



Flange has four 13/32" holes for installation with wood screws, or ⅜" bolts.

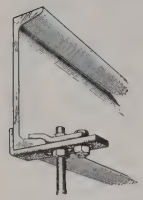
½" hanger rod and nuts to be ordered separately.

Approx. weight 1.2 lbs. Packed 50 per package.

Price per 100—Electro-Galv. $70.00

KINDORF DEVICES

No. 177 ADJUSTABLE CHANNEL CLAMP



Adjustable to fit all Structural Channels with a Maximum Flange width of 3¼". Adjustable to fit all Structural Angles with leg up to 3" long and not over ⅜" thick.

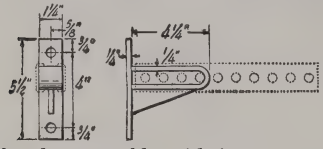
½" Hanger Rod and Nuts to be ordered separately.

Approx. weight 2.0 lbs. Packed 25 per package.

LOAD RATING=500 lbs.

Price per 100—Electro-Galv. **$110.00**

No. 181 STEEL WALL BRACKET



This bracket assembly with its two continuous slots offers many combinations for supporting single and multiple runs of conduit.

Bracket is furnished standard less No. 100 channel.

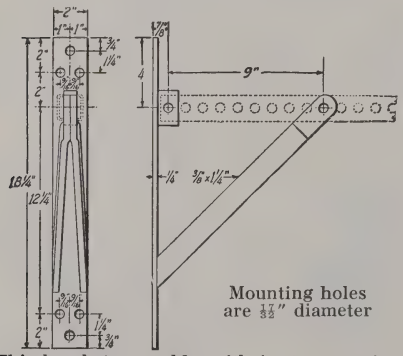
Mounting holes are $\frac{17}{32}$" diameter.

Weight 1.5 lbs. each.

End Load Rating, 12" No. 100 Channel, 400 lbs.

Price per 100—Electro-Galv. **$160.00**

No. 182 STEEL WALL BRACKET



Mounting holes are $\frac{17}{32}$" diameter

This bracket assembly with its two continuous slots offers many combinations for supporting single and multiple runs of conduit.

Bracket is furnished standard less No. 100 channel.

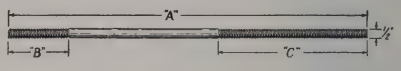
Weight 5.8 lbs. each.

End Load Rating, 18" No. 100 Channel, 480 lbs.

Price per 100—Electro-Galv. **$430.00**

Brackets bolted to a wall should have a back plate if heavily loaded. It is recommended that each ½" bolt embedded in a concrete wall be limited to a 500 pound load. This load limitation is due to shear of concrete.

No. 190 HANGER RODS—½" DIAMETER



Size A	"B"	"C"	Wt. Lbs. per 100	Price per 100 Electro-Galv.
2	*	*	11	**$13.00**
3	*	*	16	**14.00**
4	*	*	21	**15.00**
6	4"	1½"	33	**16.00**
8	4"	3"	45	**20.00**
10	4"	5"	56	**24.00**
12	4"	6"	67	**29.00**
14	4"	6"	78	**34.00**
18	4"	10"	100	**44.00**
24	4"	10"	134	**52.00**
30	4"	10"	167	**60.00**
36	4"	10"	200	**68.00**
42	4"	10"	234	**76.00**
48	4"	10"	267	**84.00**
54	4"	10"	300	**92.00**
60	4"	10"	334	**100.00**
66	4"	10"	367	**108.00**
72	4"	10"	400	**116.00**

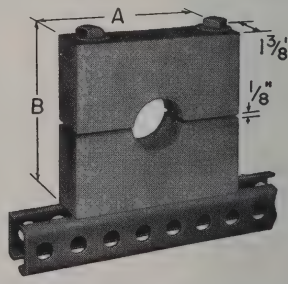
*Continuous thread. Each size packed 25 per package.

No. 287 "U" BOLTS

Conduit Size	Steel Size	Units per Package	Price per 100 Electro-Galv.
½"	⅜"	100	**$18.00**
¾"	⅜"	100	**19.00**
1 "	⅜"	100	**20.00**
1¼"	⅜"	100	**21.00**
1½"	⅜"	100	**22.00**
2 "	⅜"	100	**24.00**
2½"	½"	50	**38.00**
3 "	½"	50	**42.00**
3½"	½"	25	**45.00**
4 "	½"	25	**50.00**

Furnished with two hex nuts.

No. 750 MAPLE CABLE CLAMPS



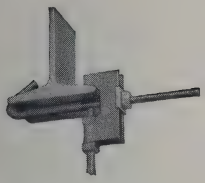
Clamps furnished with ⅜" bolts and special nuts for installation on a No. 100 Kindorf Channel Assembly.

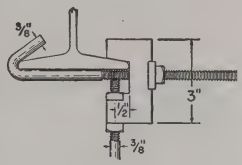
Note: Orders must specify exact O.D. of cable to be supported.

Size No.	O.D. of Cable	Wt. Lbs. per 100	Price per 100 Electro-Galv.
1	Up to 0.99"	90	**$190.00**
2	1" to 1.49"	100	**215.00**
3	1.5" to 1.99"	120	**240.00**
4	2" to 2.49"	140	**265.00**
5	2.5" to 2.99"	160	**290.00**
6	3" to 3.99"	200	**315.00**
7	4" to 4.99"	240	**340.00**

KINDORF "B SERIES" CONDUIT HANGERS

No. 1230 I-BEAM CLAMP



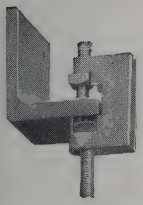


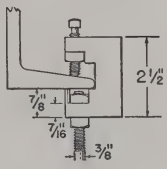
⅛" Steel—Wt. Ea. 0.6 Lbs.—Packed 50 Per Pkg.
Load Rating—500 Lbs.

Clamps to all I-Beams where edge of beam flange does not exceed .80-inch thickness. Hook Rod is furnished in standard length of 8 in. with 4¾ in. of thread—to fit beams up to 6 in. flange width. Hanger rod and nuts to be ordered separately.

Price per 100—Electro-Galv. **$42.00**
For Hook Rods 12 in. long, add **$10.00** per 100.

No. 1231 STRUCTURAL STEEL CLAMP



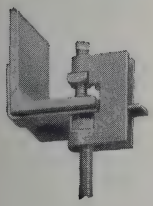


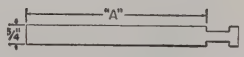
⅛" Steel—Wt. Ea. 0.3 Lbs.—Packed 50 Per Pkg.
Load Rating—300 Lbs.

Clamps to I-Beams, Channels, Angles and Columns, where flange does not exceed .80-in. in thickness. Clamp includes ⅜-in. cup point set screw with nut. Hanger rod and hanger rod nuts, Anchor Clips and Conduit Straps to be ordered separately.

Price per 100—Electro-Galv. **$28.00**

No. 1233 ANCHOR CLIP



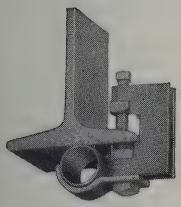


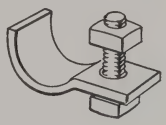
⅛" Steel—Packed 50 Per Pkg.

This Anchor Clip for use with No. 1231 Clamp on installations subject to excessive vibration.

Size A	Beam Flange Width	Wt. Lbs. per 100	Price per 100 Electro-Galv.
7"	Up to 6"	20	**$10.00**
11"	Up to 10"	32	**15.00**

No. 1234 CONDUIT STRAPS





3/16" x 1" Steel—Packed 50 Per Pkg.

These straps are designed for use with No. 1231 Clamp. Installs conduit parallel with beam, across beam, or at any horizontal angle.

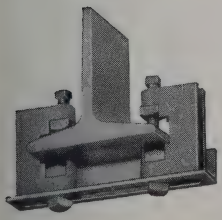
Straps furnished with ⅜-in. x 1-in. bolt and nut.

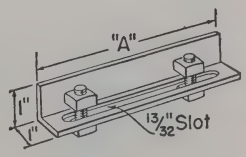
No. 1231 Clamp to be ordered separately.

Size No.	Conduit or E.M.T. Size	Wt. Lbs. per 100	Price per 100 Electro-Galv.
1	½" Conduit	20	**$13.00**
2	¾" Conduit	21	**14.00**
3	1" Conduit	23	**16.00**
11	½" E.M.T.	20	**13.00**
12	¾" E.M.T.	21	**14.00**
13	1" E.M.T.	22	**15.00**

E.M.T.—threadless thin-wall conduit.

No. 1235 CENTER I-BEAM SUPPORT





⅛" Steel—Packed 50 Per Pkg.

This support with $\frac{13}{32}$" slot is used with No. 1231 Clamps. Gives a low-cost connection to center of I-Beams.

Unit furnished with TWO ⅜" x 1" bolts & nuts.

No. 1231 Clamps to be ordered separately.

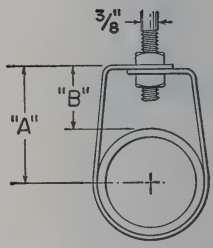
Size A	Beam Flange Width	Wt. Lbs. per 100	Price per 100 Electro-Galv.
7"	Up to 6"	40	**$20.00**
11"	Up to 10"	67	**30.00**

KINDORF "B SERIES" CONDUIT HANGERS

No. 1240 CONDUIT HANGER

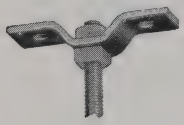
Load Rating (All Sizes) 500 Lbs. — 50 Per Pkg.

This conduit hanger provides easy vertical adjustment after conduit is in place. For ⅜-in. hanger rod only. ⅜-in. hanger rod and nuts to be ordered separately.



Conduit Size	A	B	Weight per 100	Price per 100 Electro-Galv.
½"	1 11/16"	1¼"	20.0 lbs.	**$14.00**
¾"	1 13/16"	1¼"	21.0 lbs.	**15.00**
1 "	1 7/8"	1¼"	22.5 lbs.	**16.00**
1¼"	2⅛"	1¼"	25.0 lbs.	**17.00**
1½"	2¼"	1¼"	27.0 lbs.	**18.00**
2 "	2⅜"	1¼"	30.0 lbs.	**20.00**
2½"	3 3/16"	1¾"	35.0 lbs.	**22.00**
3 "	3½"	1¾"	40.0 lbs.	**24.00**
3½"	3¾"	1¾"	45.0 lbs.	**26.00**
4 "	5 "	1¾"	50.0 lbs.	**28.00**

No. 1243 CEILING FLANGE

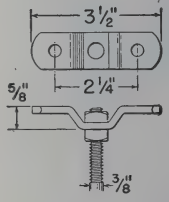


3/16" x 1" Steel—Wt. Ea. 0.25 Lbs.—50 Per Pkg.

Center hole in flange is 7/16" diameter, for ⅜-in. hanger rod. The two end mounting holes are 11/32" diameter.

Hanger rod and nuts to be ordered separately.

Price per 100—Electro-Galv. **$15.00**



No. 1244 SIDE BEAM CONNECTOR

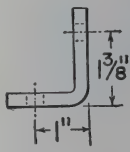
¼" x 1" Steel—Wt. Ea. 0.2 Lbs.—50 Per Pkg.

Used to secure a ⅜-in. hanger rod to side of beam.

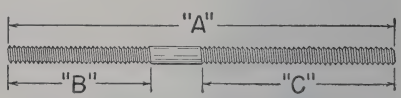
Holes in connector are 7/16-in. diameter.

Hanger rod and nuts to be ordered separately.

Price per 100—Electro-Galv. **$12.00**



No. 1189 HANGER RODS — ⅜" DIAMETER
Rods have Right-Hand Thread.
LOAD RATING—800 Lbs.
Packed 50 Per Pkg.

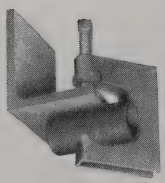


Length A	2"	4"	6"	8"	10"	12"	14"	18"	24"	30"	36"	42"	48"
Length B	1"	2"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
Length C	¾"	1½"	1½"	3"	5"	6"	6"	10"	10"	10"	10"	10"	10"
Weight, Lbs. Ea.	.07	.13	.19	.25	.32	.37	.44	.56	.75	.94	1.12	1.31	1.50
Price per 100 Electro-Galv.	**$10.**	**$12.**	**$14.**	**$16.**	**$18.**	**$20.50**	**$23.**	**$28.**	**$34.**	**$40.**	**$46.**	**$52.**	**$58.**

No. 1116 American Standard Regular Square Nuts
Price Per 100—Electro-Galvanized—⅜" Size—$2.25

No. 1117 Steel Flat Washers
Price Per 100—Electro-Galvanized—⅜" Size—$1.20

No. 1248 STEEL CONDUIT CLAMP



Right Angle

⅛" Steel—Weight Ea. 0.38 Lbs.—Packed 50 Per Pkg.

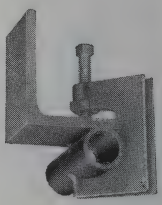
This steel clamp will support ½", ¾" or 1" conduit parallel with or at right angle to beams, channels, angles or columns.

Clamps ½" conduit to beams up to 1" thick.

Clamps ¾" conduit to beams up to ¾" thick.

Clamps 1" conduit to beams up to ½" thick.

Price Per 100—Eectro-Galv. **$33.00**



Parallel

OUTLET, SWITCH AND JUNCTION BOXES AND FITTINGS
Excerpts from National Electrical Code (1951 Edition)

ARTICLE 370

3701. Scope. The provisions of this article shall apply to the installation of outlet, switch and junction boxes, and fittings as required by section 3007. Installations in hazardous locations shall conform to Article 500.

3702. Use of Round Outlet Boxes. Round outlet boxes shall not be used where conduits or connectors requiring the use of locknuts or bushings are to be connected to the side of the box.

3703. Non-Metallic Outlet Boxes. Non-metallic outlet boxes may be used only with open wiring on insulators, concealed knob-and-tube work, non-metallic sheathed cable, and with non-metallic waterproof wiring.

3704. Metallic Outlet Boxes. When used with knob-and-tube work or non-metallic sheathed cable, and mounted on metal or metal lath ceilings or walls, such boxes shall be insulated from their supports and from the metal or metal lath, or shall be grounded.

3705. Damp or Wet Locations. In damp or wet locations, boxes and fittings shall be so placed or equipped as to prevent moisture or water from entering and accumulating within the box or fitting. Boxes and fittings installed in wet locations shall be weatherproof. For boxes in floors, see section 4162.

It is recommended that boxes of non-conductive material be used with non-metallic sheathed cable when such cable is used in locations where there is likely to be occasional moisture present such as in dairy barns.

3706. Depth of Boxes for Concealed Work. Outlet boxes for concealed work shall have an internal depth of at least 1½ inches, except that where the installation of such a box will result in injury to the building structure or is impracticable, a box not less than ½-inch internal depth may be installed.

3707. Supports—General. Boxes, fittings and cabinets shall be securely fastened in place. Boxes and fittings, not over 100 cubic inches in size, which are attached to firmly secured exposed raceway by threading or other connection designed for the purpose, are considered as so fastened.

a. Concealed Work. In concealed work, except as prescribed in paragraph (b) of this section, outlet boxes and fittings, unless securely held in place by concrete, masonry or other building material in which they are embedded, shall be secured to a stud, joist, or similar fixed structural unit, or to a metal or wooden support which is secured to such a structural unit. Wooden supports shall be not less than ⅞-inch in thickness. Lath of wood, metal or composition shall not be considered a structural unit. See sections 4131 and 4132 for support of fixtures.

b. Exposed Work. In exposed work, and in concealed work in existing buildings where conductors or cables are fished and outlet boxes cannot be secured as provided in paragraph (a) of this section without disturbing the building finish, the boxes may be mounted directly upon the plaster surface if securely fastened in place.

3708. Pull and Junction Boxes. Pull and junction boxes shall conform to the following:

a. Minimum Size. For raceways of 1¼-inch trade size and larger, containing conductors of No. 6 or larger, the minimum dimensions of a pull box or a junction box installed in a raceway shall conform to the following:

1. Straight Pulls. In straight pulls the length of the box shall be not less than 8 times the trade diameter of the largest raceway.

2. Angle or U Pulls. Where angle or U pulls are made, the distance between each raceway entry inside the box and the opposite wall of the box shall not be less than 6 times the trade diameter of the raceway. This distance shall be increased for additional entries by the amount of the sum of the diameters of all other raceway entries on the same wall of the box. The distance between raceway entries enclosing the same conductor shall not be less than 6 times the trade diameter of the larger raceway.

3. Exceptions. The limitations of sub-paragraphs 1 and 2 of this section are not intended to apply to terminal housings supplied with motors, nor to types of boxes or fittings without knockouts and having hubs or recessed ports for terminal bushings and locknuts.

b. Conductors in Pull or Junction Boxes. In pull boxes or junction boxes having any dimension over 6 feet, all conductors shall be cabled or racked up in an approved manner.

See section 3736 for insulation of conductors at bushings.

3709. Number of Conductors in a Box. Boxes shall be of sufficient size to provide free space for all conductors enclosed in the box.

a. The maximum number of conductors, not counting fixture wires, permitted in outlet and junction boxes shall be as in the following tables with the exceptions noted.

DEEP BOXES

Box Dimensions Trade Size	Maximum Number of Conductors No. 14	No. 12	No. 10	No. 8
1½x3¼ octagonal	5	5	4	0
1½x4 octagonal	8	7	6	5
1½x4 square	11	9	7	5
1½x4⅛ square	16	12	10	8
2⅛x4⅛ square	20	16	12	10
2 x1¾x2¾	5	4	4	
2½x1¾x2¾	6	6	5	
3 x1¾x2¾	7	7	6	

Where there is not sufficient space for a deeper box, four No. 14 Awg conductors may enter a box provided with cable clamps and containing one or more devices on a single mounting strap.

SHALLOW BOXES OF LESS THAN 1½-INCH DEPTH

Box Dimensions Trade Size	Max. Number of Conductors No. 14	No. 12	No. 10
3¼	4	4	3
4	6	6	4
4⅛	8	6	6

The above tables apply where no fittings or devices, such as fixture studs, cable clamps, hickeys, switches or receptacles are contained in the box. Where one or more fixture studs, cable clamps, or hickeys are contained in the box, the number of conductors shall be one less than shown in the tables, with a further deduction of one for each flush device or combination of flush devices mounted on the same strap. A conductor running through the box is counted as one conductor, and each conductor terminating in the box is also counted as one conductor. If single flush boxes are ganged, and each section is occupied by a flush device or combination of flush devices on the same strap, the limitations will apply to each section individually.

b. For combinations not shown in above tables the following table shall apply:

Size of Cond.	Free Space Within Box for each Conductor	Size of Cond.	Free Space Within Box for each Conductor
No. 14	2. cubic inches	No. 10	2.5 cubic inches
No. 12	2.25 cubic inches	No. 8	3. cubic inches

3710. Conductors Entering Boxes or Fittings. Conductors entering boxes or fittings shall be protected from abrasion, and shall conform to the following:

a. Openings to be Closed. Openings through which conductors enter shall be adequately closed.

b. Metal Boxes and Fittings. If metal outlet boxes or fittings are used with open wiring or concealed knob-and-tube work, conductors shall enter through insulating bushings or, in dry places, through flexible tubing extending from the last insulating support and firmly secured to the box or fitting. Where raceway or cable is used with metal outlet boxes or fittings, the raceway or cable shall be secured to such boxes and fittings.

c. Non-Metallic Boxes. If non-metallic boxes are used with open wiring or concealed knob-and-tube work, the conductors shall enter through individual holes. Where flexible tubing is used to encase the conductor, the tubing shall extend from the last insulating support and may be run into the box or terminate at the wall of the box. If non-metallic sheathed cable is used, the cable assembly shall enter the box through a knockout opening. Clamping of individual conductors or cables to the box is not required if supported within 8 inches of the box.

3711. Covers and Canopies. In completed installations each outlet box shall be provided with a cover unless a fixture canopy is used.

a. Non-metallic covers and plates shall be used with non-metallic outlet boxes.

b. If a fixture canopy or pan is used, any combustible wall or ceiling finish exposed between the edge of the canopy or pan and the outlet box shall be covered with non-combustible material.

c. Covers of outlet boxes having holes through which flexible cord pendants pass, shall be provided with bushings designed for the purpose or shall have smooth, well-rounded surfaces on which the cord may bear. So-called hard-rubber or composition bushings shall not be used.

3712. Unused Openings. Unused openings in boxes and fittings shall be effectively closed to afford protection substantially equivalent to that of the wall of the box or fitting. Metal plugs or plates shall not be used with non-metallic boxes or fittings unless recessed at least ¼-inch from the outer surface.

3713. Boxes Enclosing Flush Devices. Boxes used to enclose flush devices shall be of such design that the devices will be completely enclosed on back and sides, and that substantial support for the devices will be provided. Screws for supporting the box shall not be used in attachment of the device contained therein.

3714. Fastened to Gas Pipes. Outlet boxes used where gas outlets are present shall be so fastened to the gas pipes as to be mechanically secure.

3715. Position in Wall. In walls or ceilings of concrete, tile or other non-combustile material, boxes and fittings shall be so installed that the front edge of the box or fitting will not set back of the finished surface more than ¼-inch. In walls and ceilings constructed of wood or other combustible material, outlet boxes and fittings shall be flush with the finished surface or project therefrom.

3716. Repairing Plaster. Except on walls or ceilings of concrete, tile or other non-combustible material, a plaster surface which is broken or incomplete shall be repaired so that there will be no gaps or open spaces at the edge of the box or fitting.

3717. Junction Boxes to Be Accessible. Junction boxes shall be so installed that the wiring contained in them may be rendered accessible without removing any part of the building.

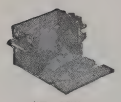
3718. Exposed Extensions. In making an exposed extension from an existing outlet of concealed wiring, a box, extension ring or blank cover shall be mounted over the original box and electrically and mechanically secured to it. The extension shall then be connected to this box in the manner prescribed for the method of wiring employed in making the extension.

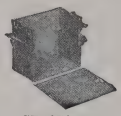
3719. Boxes at Fixture Outlets. Boxes used at outlets for fixtures shall be designed for the purpose. At every outlet used exclusively for lighting, the box shall be so designed or installed that a fixture may be attached.

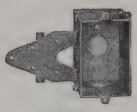
G-E SECTIONAL SWITCH BOXES

FOR RIGID CONDUIT, EMT, FLEXIBLE CONDUIT

Federal Specifications — W-O-821a, June 10, 1937


SP6975


SP6971


SP7671

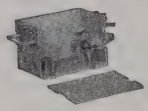
KO's in sides — 6–½ inch; in bottom — 1–½ inch.

Cat. No.	KO Size In.	Depth In.	Description	Std Pkg	Wt Per 100
SP6975	½	2	Mounting Ears	50	60
SP6971	½	2½	Mounting Ears	50	64
SP7671	½	2½	Standard Bracket	50	75

FOR BX—ARMORED CABLE

With Clamps for BX Cable

SP6972


SP6976

SP6972SS

SP7672

SP7676

4 Pryouts for 14/2 through 10/2 BX. 1–½-inch KO in bottom. SP6972–Levelock.†

Cat. No.	KO Size	Depth In.	Description	Std Pkg	Wt Per 100
SP6972	----	2½	Mounting Ears	50	70
SP6976	----	2	Mounting Ears	50	60
SP6972SS	----	2½	Side Bracket	50	78
SP7672	----	2½	Standard Bracket	50	80
SP7676	----	2	Standard Bracket	50	68

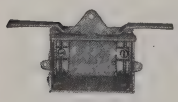
FOR NONMETALLIC CABLE

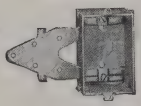
With Clamps for Nonmetallic Cable

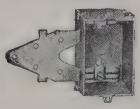
SP6972D

SP6976D

SP6974D


SP6972DSS


SP7672D


SP7676D

4 Pryouts for 14/2 through 10/2; knockouts in bottom, 1–½-inch. SP6972 and SP6974D–Levelock.†

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP6972D	2½	Mounting Ears	50	70
SP6976D	2	Mounting Ears	50	60
SP6974D	2¼	Mounting Ears	50	60
SP6974DLE	2¼	Less Ears	50	60
SP6972DSS	2½	Side Bracket	50	78
SP6772D	2½	Standard Bracket	50	80
SP7676D	2	Standard Bracket	50	68

Finish: Galvanized.

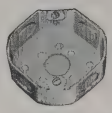
†Listed by Underwriters' Laboratories, Inc.

G-E OUTLET BOXES

For Rigid Conduit, EMT, Flexible Conduit

Federal Specifications — W-O-821a, June 10, 1937

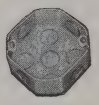
3½-INCH OCTAGON BOXES

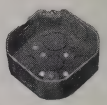


Cat. No.	KO	Depth In.	Knockouts Sides	Knockouts Bottom	Wt Per 100
SP24151	½	1½	4–½	1–½	50
SP24151	¾	1½	4–¾	1–½	50

Standard package, 100.

4-INCH OCTAGON BOXES


SP54151


SP54151S

SP54171

SP54171

SP54171

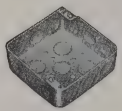
Cat. No.	KO	Depth In.	Knockouts in Sides	Std Pkg	Wt Per 100
SP54151	½	1½	4–½	50	65
SP54151	¾	1½	4–¾	50	65
SP54151S	----	1½	2–½—2–¾	50	65
SP54171	½	2⅛	4–½	50	80
SP54171	¾	2⅛	4–¾	50	80
SP54171	1	2⅛	4–1	50	80

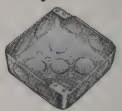
Knockouts in bottom, 3–½ and 2–¾.

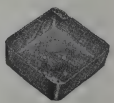
4-INCH EXTENSION RINGS

Cat. No.	KO	Depth In.	KO in Sides	Std Pkg	Wt Per 100
SP55151	½	1½	4–½	50	50
SP55151	¾	1½	4–¾	50	50

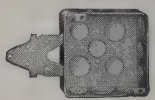
4-INCH SQUARE BOXES


SP52151


SP52151


SP52151S

SP52171-½" KO


SP52151B

SP52171

SP52171S

SP52171-1" KO

Cat. No.	KO	Depth In.	Knockouts in Sides	Std Pkg	Wt Per 100
SP52151	½"	1½	12–½"	50	80
SP52151	¾"	1½	8–¾"	50	80
SP52151S	------	1½	8–½—4–¾"	50	80
SP52151B	½"	1½	9–½"	50	80
SP52171	½"	2⅛	10–½"	50	98
SP52171	¾"	2⅛	8–¾"	50	98
SP52171S	------	2⅛	6–½—4–¾"	50	98
SP52171	1 "	2⅛	6–1"	50	98

Knockouts in bottom, 3–½-inch and 2–¾-inch.

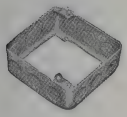
Finish: Galvanized.

G-E OUTLET BOXES

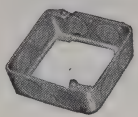
For Rigid Conduit, EMT, Flexible Conduit

Federal Specifications — W-O-821a, June 10, 1937

4-INCH SQUARE EXTENSION RINGS



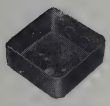
SP53151-½" KO



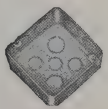
SP53151-¾" KO

Cat. No.	KO	Depth In.	Knockouts in Sides	Std Pkg	Wt Per 100
SP53151	½"	1½	12–½"	50	55
SP53151	¾"	1½	8–¾"	50	55

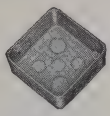
4–11/16 INCH SQUARE BOXES



SP72171-½" KO



SP72171-¾" KO



SP72171-1" KO

Cat. No.	KO	Depth In.	Knockouts in Sides	Std Pkg	Wt Per 100
SP72171	½	2⅛	8–½	25	120
SP72171	¾	2⅛	8–¾	25	120
SP72171	1	2⅛	8–1	25	120

KO's in Bottom: 3–½", 2–¾".

BX ARMORED CABLE BOXES

With Clamps for BX Cable

SP24151C

SP54151C

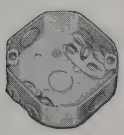
SP26625

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP24151C	1½	3½ in. octagon	50	65
SP54151C	1½	4 in. octagon	50	75
SP26625	¾	3½ in. round	100	35

NONMETALLIC CABLE BOXES

With Clamps for Nonmetallic Cable

SP24151CD



SP54151CD

SP26625R

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP24151CD	1½	3½ in. octagon	50	60
SP54151CD	1½	4 in. octagon	50	75
SP26625R	¾	3½ in. round	100	40

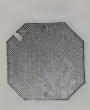
Finish: Galvanized.

G-E OUTLET BOXES

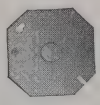
Federal Specifications — W-O-821a, June 10, 1937

COVERS FOR OUTLET BOXES

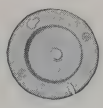
For 3½-Inch Octagon Boxes



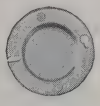
SP24C1



SP24C6



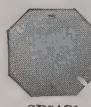
SP24C12



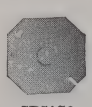
SP24C2

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP24C1	....	Flat cover—blank	100	20
SP24C6	....	Flat cover—½ in. KO	100	20
SP24C2	⅝	Raised cover—blank	100	20
SP24C12	⅝	Raised cover with ⅜-in. pendent eyelet	100	20

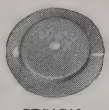
For 4-Inch Octagon Boxes



SP54C1



SP54C6



SP54C12

SP54C3

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP54C1	....	Flat cover—blank	100	30
SP54C6	....	Flat cover with ½ in. KO	100	30
SP54C12	⅝	Raised cover with ⅜ in. pendent eyelet	100	40
†SP54C3	⅝	Raised cover with 2¾ in. canopy opening	100	30

For 4-Inch Square Boxes

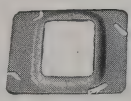
SP52C1

SP52C6

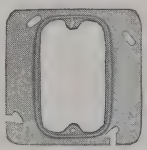
SP52C3

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP52C1	....	Flat cover—blank	100	35
SP52C6	....	Flat cover with ½ in. KO	100	35
†SP52C3	⅝	Raised cover with 2¾ in. canopy opening	100	35

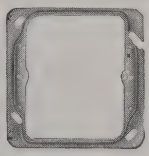
Raised Covers for 4-inch Square Boxes



SP52C62



SP52C13



SP52C17

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP52C62	¼	For one flush device	50	24
SP52C13	½	For one flush device	100	30
SP52C14	¾	For one flush device	100	35
SP52C15	1	For one flush device	100	40
SP52C16	1¼	For one flush device	100	45
SP52C17	½	For two flush devices	100	18
SP52C18	¾	For two flush devices	100	27

Finish: Galvanized.

†This cover will accommodate all covers for 3½ inch octagon boxes.

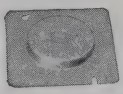
G-E OUTLET BOXES

COVERS FOR OUTLET BOXES

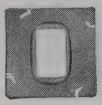
Federal Specifications—W-O-821A, June 10, 1937

For 4–11/16-Inch Square Boxes

SP72C1



SP72C7



SP72C14

SP72C18

Cat. No.	Depth In.	Description	Std Pkg	Wt Per 100
SP72C1	....	Flat cover—blank	50	55
SP72C7	5/8	Raised cover with ½ in. KO	50	65
SP72C14	5/8	Raised cover for one flush device	25	47
SP72C18	¾	Raised cover or two flush devices	25	40

Finish: Galvanized.

G-E BAR HANGERS

SP6602L

SP6620L

SP6620

G-E Bar Hangers are available in four styles: straight, shallow offset, deep offset, "S" type; and in two lengths: 18 in. and 26 in.

The stud is of the separable type, is easily assembled, and has only two parts—the bell assembly and the yoke. The yoke may be removed from the bar when necessary.

The S-shaped bar hanger SP6620 fits all stud spacings from 5 through 16 inches and the SP-6620L fit up to and including 24-inch spacings. The fixture studs on these bar hangers are made of steel welded together for extra strength.

Cat. No.	In.	Description	Std Pkg	Wt Lb Per 100
SP6600	18	in. straight	50	52
SP6600L	26	in. straight	50	74
SP6601	18	in. shallow offset	50	74
SP6601L	26	in. shallow offset	50	76
SP6602	18	in. deep offset	50	58
SP6602L	26	in. deep offset	50	62
SP6620		"S" type, short	50	35
SP6620L		"S" type, long	50	50

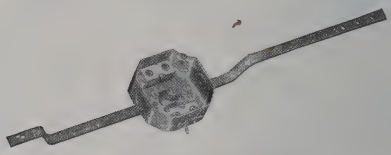
Finish: Galvanized.

G-E SECTIONAL SWITCH BOXES

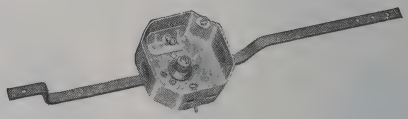
SUPPORTS AND LATH HOLDERS FOR SWITCH BOXES (KRUSE STRIPS)

Cat. No.	Description	Std Pkg	Wt Lb Per 100
SP6610	Switch Box and Lath Support 16½ in. long.....	100	42
SP6611	Switch Box and Lath Support 18½ in. long.....	100	45
SP6612	Switch Box and Lath Support 20½ in. long.....	100	45

BAR HANGER BOXES



SP24151CBH



SP54151CBHD

Bar hanger boxes are available for use with both BX and Nonmetallic cable. Boxes are octagonal and come in two sizes, 3½- and 4-inch. The outlet boxes are mounted on the SP6601, 18-inch shallow offset bar hanger and may be moved along the offset to any desired position. When the bar hanger stud is tightened, the box is securely fastened and will not jar loose or turn on the bar. Bar hanger boxes are shipped completely assembled.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Per 100
SP24151CBH	3½ in. octagon outlet box with clamps for armored cable	25	120
SP24151CBHD	3½ in. octagon outlet box with clamps for nonmetallic cable	25	116
SP54151CBH	4 in. octagon outlet box with clamps for armored cable	25	124
SP54151CBHD	4 in. octagon outlet box with clamp for nonmetallic cable	25	124

Finish: Galvanized.

G-E UTILITY BOXES AND MULTILETS

Federal Specifications — W-O-821a, June 10, 1937

UTILITY BOXES

SP5800

SP5800SS

Cat. No.	KO	Knockouts Sides	Knockouts Bottom	Std Pkg	Wt Lb Per 100
SP5800	½"	8–½"	3–½"	50	60
SP5800	¾"	6–½" 2–¾"	1–¾"	50	60
SP5800B	½"	Same as ½" but with bracket		50	80
SP5800B	¾"	Same as ¾" but with bracket		50	80
†SP5800SS	½"	8–½"	3–½"	50	65
†SP5800SS	¾"	6–½" 2–¾"	1–¾"	50	65

Size: 4 x 2⅛ x 1⅞" deep. †With side brackets.

Size: 3¾x1½x1⅜ inches deep.

Cat. No.	KO	Sides	Bottoms
SP4800	½"	8–½"	3–½"

Standard package, 50. Weight per 100, 45 lb

Size: 3½x2¼x1⅞ inches deep.

Cat. No.	KO	Sides	Bottom
SP3400	½"	4–½"	1–½"

Standard package, 50.
Weight, 55 lb

MULTILETS

Size: 3¾x1½x1⅜ inches deep.

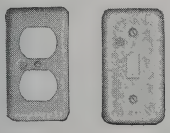
Cat. No.	KO	Knockouts Sides	Knockouts Bottom	Std Pkg	Wt. Per 100
SP48241	¾"	8	3	50	45

Size: 3½x2¼x1⅞ inches deep.

Cat. No.	KO	Knockouts Sides	Knockouts Bottom	Std Pkg	Wt. Per 100
SP34461	¾"	4	1	50	55

COVERS

SP58R1



SP58R7

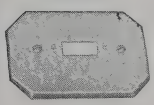
SP58R14

SP48C1

SP34R1

SP34R7

SP58R5



SP34R14

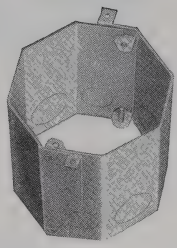
Cat. No.	For Utility Box	For Multilet	Outlets	Std Pkg	Wt Lb Per 100
SP58R1	SP5800	----------	Blank	100	10
SP58R5	SP5800	----------	Single	100	10
SP58R7	SP5800	----------	Twin	100	10
SP58R14	SP5800	----------	Switch	100	10
SP48C1	SP4800	SP48241	Blank	50	15
SP34R1	SP3400	SP34461	Blank	50	15
SP34R5	SP3400	SP34461	Single	50	14
SP34R7	SP3400	SP34461	Twin	50	15
SP34R14	SP3400	SP34461	Switch	50	15

Finish: Galvanized only.

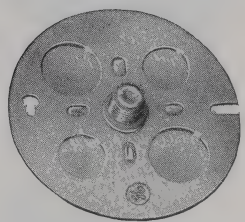
G-E CONCRETE BOXES AND PLATES

Federal Specification—W-O-821A, June 10, 1937.

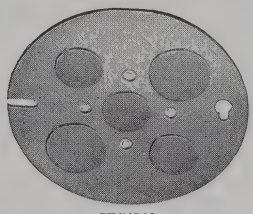
Galvanized Finish



SP54571



SP54717



SP54712

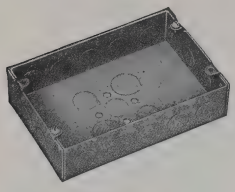
G-E concrete outlet boxes can be used for poured arch construction and reinforced concrete work. They are used for various outlet applications in large apartment houses, industrial and commercial buildings, hospitals schools, etc.

The box rings are made of two-piece construction riveted together for extra strength. These box rings are furnished without bottoms on covers. Covers must be ordered separately. They can be fastened to either the top or bottom of the rings thereby offering flexibility.

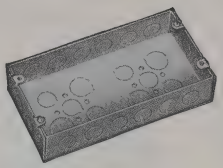
Cat. No.	Depth Inches	KO's	Std Pkg	Wt Lb Per 100
4-in. Octagon Rings Only (Without Covers)				
SP54531	2	4–½ & 4–¾	50	61
SP54541	2½	4–½ & 4–¾	50	74
SP54551	3	4–½ & 4–¾	50	83
SP54561	3½	4–½ & 4–¾	25	110
SP54571	4	4–½ & 4–¾	25	123
Covers for Concrete Boxes				
SP54712	Plain	3–½ & 2–¾	50	32
SP54717	⅜" stud	3–½ & 2–¾	50	36
SP54719	½" stud	3–½ & 2–¾	50	46

Finish—Galvanized only.

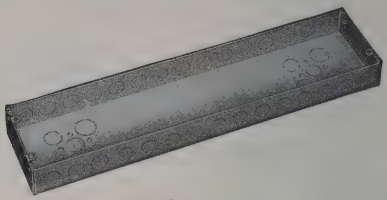
G-E GANG BOXES AND COVERS



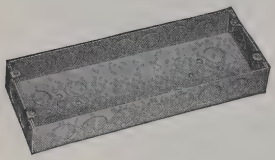
SP6732



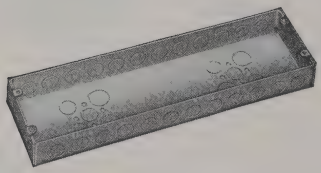
SP6733



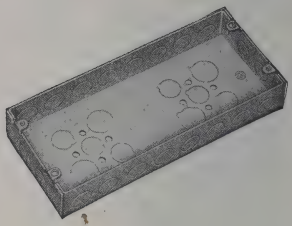
SP6739



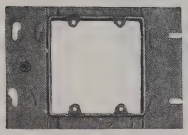
SP6735



SP6737

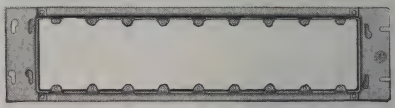


SP6734



SP6751

SP6759



SP6765

GANG BOXES

Cat. No.	KO Size, In.	Gang	KO's in Each: Side	KO's in Each: End	KO's in Each: Bottom	Length Inches	Width Inches	Depth Inside Inches	Std Pkg	Wt Lb Per 100
SP6732	½	2	5	2	3–½, 2–¾	6 13/16	4½	1⅝	5	140
SP6732	¾	2	4	2	3–½, 2–¾	6 13/16	4½	1⅝	5	140
SP6733	½	3	6	2	6–½, 4–¾	8⅝	4½	1⅝	5	175
SP6733	¾	3	5	2	6–½, 4–¾	8⅝	4½	1⅝	5	175
SP6734	½	4	8	2	6–½, 4–¾	10½	4½	1⅝	5	205
SP6734	¾	4	6	2	6–½, 4–¾	10½	4½	1⅝	5	205
SP6735	½	5	9	2	6–½, 4–¾	12¼	4½	1⅝	5	250
SP6735	¾	5	7	2	6–½, 4–¾	12¼	4½	1⅝	5	250
SP6736	½	6	10	2	6–½, 4–¾	14 1/16	4½	1⅝	1	275
SP6736	¾	6	9	2	6–½, 4–¾	14 1/16	4½	1⅝	1	275
SP6737	½	7	12	2	6–½, 4–¾	15 15/16	4½	1⅝	1	300
SP6737	¾	7	10	2	6–½, 4–¾	15 15/16	4½	1⅝	1	300
SP6738	½	8	13	2	6–½, 4–¾	17⅝	4½	1⅝	1	340
SP6738	¾	8	11	2	6–½, 4–¾	17⅝	4½	1⅝	1	340
SP6739	½	9	15	2	6–½, 4–¾	19½	4½	1⅝	1	380
SP6739	¾	9	12	2	6–½, 4–¾	19½	4½	1⅝	1	380

COVERS

Cat. No.	Gang	Fits Gang Boxes	Std Pkg	Wt Lbs Per 100
SP6751	2	SP6732	5	66
SP6753	3	SP6733 or SP6732	5	76
SP6755	4	SP6734 or SP6733	5	86
SP6757	5	SP6735 or SP6734	5	98
SP6759	6	SP6736 or SP6735	1	108
SP6761	7	SP6737 or SP6736	1	118
SP6763	8	SP6738 or SP6737	1	130
SP6765	9	SP6739 or SP6738	1	140
SP6767	10	SP6739	1	152

Finish—Galvanized only.

Federal Specifications — W-O-821a, June 10, 1937

PP ALL-PORCELAIN PRODUCTS

Ease of installation and economy are effected through elimination of grounding, clamps, and connectors.

Designed to receive standard wiring devices, these boxes and Covers are made in Standard Shapes and Sizes with standard tapped insets, knockouts, and spacing.

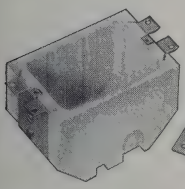
OUTLET BOXES—UNGLAZED

No. 8313-8314

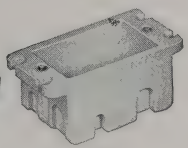
No. 8318

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8313	3¼" Oct. Outlet Box	10	50	70	$31.90
8314	4" Oct. Outlet Box	10	50	90	42.90
18314	4" Rd. Outlet Box	10	50	80	42.90
8318	"Ready" Box	10	50	90	38.50
8318½	"Ready" Box (deep)	10	50	110	44.00

SWITCH BOXES — UNGLAZED

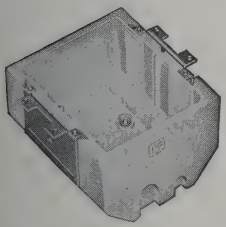


No. 8311

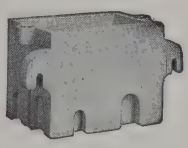


No. 8310½

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8311	Switch Box with Mounting Bracket	10	50	85	$49.50
8311½	Shallow Switch Box (1⅛" o'all depth)	10	50	55	49.50
8310½	All-porcelain Shallow Switch Box (1⅛" overall depth)	10	50	45	33.90



No. 8315



No. 8317

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8315	2-Gang Switch Box	5	25	98	$99.00
8317	All-porcelain Switch Box	10	50	62	39.30

SHALLOW CEILING BOX

No. 8312

Unglazed porcelain shallow ceiling box.

Cat. No.	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8312	10	50	45	$38.40

PP ALL-PORCELAIN PRODUCTS

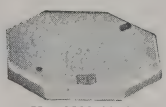
PLASTER RING COVER

No. 8394

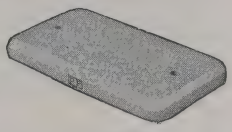
Unglazed plaster ring cover for 4-inch octagonal outlet box.

Cat. No.	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8394	16	80	49	$30.20

BLANK COVERS—GLAZED



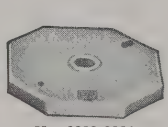
No. 8323-8324



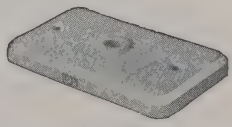
No. 8328

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8323	For 3¼" Octag. Box	10	50	30	$14.90
8324	For 4" Octag. Box	10	50	30	22.30
8328	For "Ready" Box	10	50	46	15.90

PENDENT COVERS—GLAZED



No. 8333-8334



No. 8338

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8333	For 3¼" Octag. Box	10	50	30	$16.00
8334	For 4" Octag. Box	10	50	60	22.00
8338	For "Ready" Box	10	50	48	21.60

No. 6920-6921

For 3¼-Inch Round Box

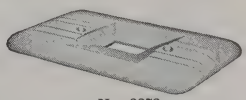
Cat. No.	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
6920	10	50	34	$18.30

For 4-Inch Round Box

6921	10	50	70	23.90

OUTLET AND SWITCH BOX COVERS—GLAZED

No. 8343-8344



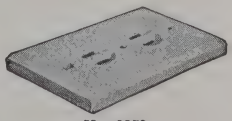
No. 8378

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8343	Mounting Cover, 3¼"	10	50	30	$19.30
8344	Mounting Cover, 4"	10	50	60	26.90
8378	Tumbler Switch Cover for "Ready" Box	10	50	30	17.60
8380	Tumbler Switch Cover for Flush Mounting	10	50	38	18.30

DUPLEX RECEPTACLE COVERS—GLAZED

Combination Cover and Device

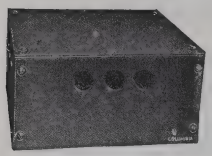
No. 8353-8354



No. 8358

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
8353	For 3¼" Octag. Box	5	25	60	$41.70
8354	For 4" Octag. Box	10	50	70	54.50
8358	For "Ready" Box	5	25	60	42.90

COLUMBIA SCREW COVER PULL BOXES



These pull boxes can be supplied in any thickness of steel, and in every size required. Due to the use of large conduits, it is often necessary to use a heavier gauge of steel than is called for by the code.

Cabinets are furnished with standard knockouts. If special knockouts are required, a **$2.00** labor charge for each additional size change will be made regardless of the quantity of boxes ordered.

If boxes are wanted without knockouts, please mention it. Boxes without knockouts take list price less discount.

Prices are for boxes finished in black enamel. For galvanized finish, prices quoted on application. Sizes not listed at proportionate prices.

Special pull boxes of any design, size and specification adapted to any requirement, are made to your order.

No. 16 GAUGE STEEL—STANDARD

NOTE: The list prices of sizes which are omitted in this list must be made of heavier gauge steel to conform with the National Electric Code.

Width Inches	Height Inches	DEPTH IN INCHES					
		3 In.	4 In.	6 In.	8 In.	10 In.	12 In.
4	6	$1.92	$2.34	....	....	....	....
4	8	2.16	2.64	....	....	....	....
4	10	2.40	2.88	$3.66	....	....	....
6	6	1.88	2.16	3.76	$4.10	....	....
6	9	2.30	2.96	4.52	5.08	....	....
6	10	2.64	3.16	4.82	5.40	....	....
6	11	2.82	3.40	4.52	5.96	....	....
6	12	3.00	3.36	5.32	6.12	....	....
6	16	3.60	4.08	6.00	7.56	....	....
8	8	2.10	2.64	4.26	4.72	....	....
8	8	2.56	3.06	4.60	5.52	....	....
8	10	2.94	3.44	5.10	6.32	$7.20	....
8	12	3.44	4.02	5.80	7.10	8.00	$8.70
8	15	4.02	4.62	6.60	8.20	9.40	10.50
8	18	4.62	5.34	7.20	9.50	10.80	12.00
9	9	2.96	3.78	5.10	6.40	7.50	8.10
9	12	3.66	4.26	6.00	7.60	8.70	8.60
9	15	4.20	4.90	7.00	8.90	10.00	11.20
9	16	4.56	5.04	7.34	9.20	10.50	11.70
9	18	4.86	5.82	7.90	9.90	11.50	12.70
9	20	5.40	6.34	8.50	10.70	12.40	13.70
9	24	6.12	7.10	9.60	12.34	14.40	15.80
9	28	....	....	....	....	....	....
9	32	....	....	....	....	....	....
9	36	....	....	....	....	....	....
10	10	3.56	4.02	5.90	7.20	8.30	9.10
10	12	3.96	4.50	6.50	8.10	9.20	10.50
10	15	4.68	5.22	7.40	9.30	10.70	11.84
10	18	5.34	5.60	8.40	10.60	12.20	13.50
10	20	6.32	7.16	9.30	11.32	12.70	14.10
10	24	7.40	8.30	10.60	13.10	14.60	16.20
10	28	....	....	....	....	....	....
10	32	....	....	....	....	....	....
10	36	....	....	....	....	....	....
12	12	4.90	5.56	7.44	8.80	9.90	11.00
12	16	6.10	6.70	8.90	10.74	12.00	13.24
12	18	6.64	7.10	9.60	11.70	13.00	14.20
12	20	7.12	7.70	10.30	12.60	14.10	15.50
12	24	8.48	9.00	11.76	14.60	16.20	17.80
12	28	....	....	....	....	....	....
12	32	....	....	....	....	....	....
12	36	....	....	....	....	....	....
12	40	....	....	....	....	....	....
16	12	6.10	6.70	8.90	10.76	12.00	13.26
16	15	7.10	7.60	10.20	12.40	13.80	15.24
16	18	8.30	8.70	11.50	14.10	15.60	17.14
16	20	9.06	9.50	12.20	15.30	16.80	18.48
15	24	10.00	10.80	13.60	16.80	18.56	20.30
16	28	....	....	....	....	....	....
16	32	....	....	....	....	....	....
16	36	....	....	....	....	....	....
16	40	....	....	....	....	....	....
18	18	9.20	10.20	12.50	15.30	17.00	18.54
18	20	10.00	11.00	13.40	16.50	18.30	20.00
18	24	....	....	....	....	....	....
18	28	....	....	....	....	....	....

COLUMBIA SCREW COVER PULL BOXES

These pull boxes can be supplied in any thickness of steel and in every size required. Due to the use of large conduits, it is often necessary to use a heavier gauge of steel than is called for by the code. Furnished with standard knockouts — for special knockouts, a **$2.00** labor charge for each additional size change regardless of quantity of boxes ordered.

Prices are for boxes finished in black enamel. For galvanized finish, prices quoted on application. Sizes not listed at proportionate prices.

No. 14 GAUGE STEEL—STANDARD

NOTE: The list prices of sizes which are omitted in this list must be made of heavier gauge steel to conform with the National Electric Code.

Width Inches	Height Inches	DEPTH IN INCHES					
		3 In.	4 In.	6 In.	8 In.	10 In.	12 In.
4	6	$2.40	$2.92	....	....	....	....
4	8	2.70	3.30	....	....	....	....
4	10	3.00	3.60	$4.60	....	....	..
6	6	2.50	2.92	4.70	$5.12	....	..
6	9	3.08	3.70	5.34	6.36	....	....
6	10	3.30	3.96	6.02	6.76	....	.
6	11	3.42	4.24	5.64	7.44	....	....
6	12	3.74	4.28	5.70	7.64	....	....
6	16	4.50	5.10	7.50	9.44	....	....
6	8	2.76	3.30	5.32	5.90	....	....
8	8	3.50	3.90	5.76	6.90	....	....
8	10	3.76	4.50	6.36	7.90	$9.00	....
8	12	4.30	5.04	7.24	8.90	10.00	$10.90
8	15	5.04	5.80	8.24	10.24	11.76	13.12
8	18	5.76	6.68	9.00	11.88	13.50	15.00
9	9	3.80	4.72	6.40	8.00	9.38	10.12
9	12	4.60	5.36	7.50	9.50	10.88	13.24
9	15	5.24	6.12	8.74	11.12	12.50	14.00
9	16	5.70	6.44	9.20	11.50	13.12	14.64
9	18	6.08	7.28	9.90	12.36	14.40	15.88
9	20	6.74	7.92	10.64	13.16	15.50	17.12
9	24	7.64	8.99	12.00	15.44	18.00	19.74
9	28	10.90	12.30	15.10	18.70	20.10	23.10
9	32	12.50	13.60	16.80	20.90	23.36	25.72
9	36	13.56	15.20	18.40	23.10	25.80	28.36
10	10	4.48	5.02	7.36	9.00	10.36	11.38
10	12	4.96	5.64	8.12	10.12	11.50	13.12
10	15	5.84	6.52	9.04	11.60	13.36	14.80
10	18	6.68	7.40	10.50	13.24	15.24	16.88
10	20	7.90	8.94	11.64	14.16	15.88	16.64
10	24	9.24	10.36	13.24	16.36	18.24	20.24
10	28	11.96	13.14	16.14	19.88	21.56	24.40
10	32	13.20	14.70	17.94	21.38	24.60	27.20
10	36	14.70	16.24	19.92	24.40	27.20	30.00
12	12	6.12	6.96	9.30	11.00	12.40	13.76
12	16	7.62	8.40	11.12	13.42	15.00	16.54
12	18	8.30	9.24	12.00	14.64	16.26	17.74
12	20	8.90	10.12	12.88	9.74	17.62	19.40
12	24	10.60	11.76	14.70	18.24	20.24	22.24
12	28	13.50	14.88	17.94	22.10	24.20	26.80
12	32	15.06	16.68	19.86	24.60	27.20	29.80
12	36	16.80	18.48	21.90	27.20	30.00	32.80
12	40	18.48	20.14	23.88	28.90	32.80	35.80
16	12	7.64	8.50	11.12	13.46	15.00	16.60
16	15	8.88	9.88	12.76	15.50	17.04	19.04
16	18	10.36	11.26	14.40	17.64	19.50	21.76
16	20	11.34	12.40	15.26	19.12	21.00	23.10
15	24	12.50	13.74	17.00	21.00	23.20	25.40
16	28	16.80	18.36	21.60	26.48	28.96	31.60
16	32	18.90	20.40	24.00	29.46	32.30	35.00
16	36	21.00	22.74	26.34	30.90	35.60	38.44
16	40	21.16	24.96	28.80	35.60	38.80	42.10
18	18	11.50	12.76	15.64	19.12	21.24	23.20
18	20	12.50	13.76	16.74	20.64	22.88	25.00
18	24	16.16	17.76	20.80	25.24	27.90	30.90
18	28	18.48	20.16	23.40	28.60	30.70	34.00
18	32	20.76	22.50	26.00	31.80	34.90	37.76
18	36	23.16	24.90	28.62	35.00	38.40	41.48
18	40	25.50	27.30	31.20	38.40	41.92	44.40
21	21	16.38	18.00	21.00	25.60	28.04	31.36
21	24	18.30	19.92	23.28	27.56	31.00	33.60
21	28	21.00	22.80	26.16	32.00	34.88	37.70
21	32	23.70	25.50	29.46	35.52	38.70	41.72
21	36	26.28	26.20	32.10	39.10	42.50	46.14
21	40	28.98	30.90	35.04	42.76	46.34	49.92
24	24	20.64	22.32	25.68	31.10	34.04	37.00
24	28	23.52	25.38	28.92	35.10	38.28	41.34
24	32	26.52	28.44	32.22	38.92	42.44	45.70
24	36	29.52	31.44	35.52	42.88	46.70	50.24
24	40	32.40	34.44	38.10	47.00	50.80	54.72
24	42	....	....	....	....	....	....
24	48	....	....	....	....	....	....
30	24	25.08	26.88	30.60	37.00	40.30	40.70
30	28	28.56	30.60	34.56	41.92	44.40	48.60
30	32	31.44	34.20	38.52	46.40	47.00	53.76
30	36	....	....	....	....	....	....

Can also be furnished in 12 or 10 gauge if required.

COLUMBIA STEEL SURFACE CABINETS

TYPE A APPROVED CABINETS

For Cutouts, Service Switches and Panel Boards

List Prices of Approved Cabinets

The boxes listed below are made of sheet steel of the required thickness to conform with Board of Underwriters' requirements and bear the Underwriters' labels. Boxes finished in black enamel. For galvanized finish, prices quoted on application.

Width Inches	Height Inches	DEPTH IN INCHES					
		3 In.	4 In.	6 In.	8 In.	10 In.	12 In.
* 4½	5	$1.72	$2.34	....	....	....	....
* 4½	9	2.00	2.64	....	....	....	....
6	6	1.88	2.16	$3.76	$4.10	....	....
* 6	9	2.30	2.96	4.52	5.08	....	....
* 6	10	2.64	3.16	4.82	5.40	....	....
* 6	11	2.82	3.40	4.52	5.96	....	....
* 6	12	3.00	3.36	5.32	6.12	....	....
* 6	16	3.60	4.08	6.00	7.56	....	....
* 6	8	2.10	2.64	4.26	4.72	....	....
8	8	2.56	3.06	4.60	5.52	....	....
8	10	2.94	3.44	5.10	6.32	$7.20	....
8	12	3.44	4.02	5.80	7.10	8.00	$8.70
8	15	4.02	4.62	6.60	8.20	9.40	10.50
8	18	4.62	5.34	7.20	9.50	10.80	12.00
9	9	2.96	3.78	5.10	6.40	7.50	8.10
9	12	3.66	4.26	6.00	7.60	8.70	8.60
9	15	4.20	4.90	7.00	8.90	10.00	11.20
9	16	4.56	5.04	7.34	9.20	10.50	11.70
9	18	4.86	5.82	7.90	9.90	11.50	12.70
9	20	5.40	6.34	8.50	10.70	12.40	13.70
9	24	6.12	7.10	9.60	12.34	14.40	15.80
9	28	10.90	12.30	15.10	18.70	20.10	23.10
9	32	12.50	13.60	16.80	20.90	23.36	25.72
9	36	13.56	15.20	18.40	23.10	25.80	28.36
10	10	3.56	4.02	5.90	7.20	8.30	9.10
10	12	3.96	4.50	6.50	8.10	9.20	10.50
10	15	4.68	5.22	7.40	9.30	10.70	11.84
10	18	5.34	5.60	8.40	10.60	12.20	13.50
10	20	6.32	7.16	9.30	11.32	12.70	14.10
10	24	7.40	8.30	10.60	13.10	14.60	16.20
10	28	11.96	13.14	16.14	19.88	21.56	24.40
10	32	13.20	14.70	17.94	21.38	24.60	27.20
10	36	14.70	16.24	19.92	24.40	27.20	30.00
12	12	4.90	5.56	7.44	8.80	9.90	11.00
12	16	6.10	6.70	8.90	10.74	12.00	13.24
12	18	6.64	7.10	9.60	11.70	13.00	14.20
12	20	7.12	7.70	10.30	12.60	14.10	15.50
12	24	8.48	9.00	11.76	14.60	16.20	17.80
12	28	13.50	14.88	17.94	22.10	24.40	26.98
12	32	15.06	16.68	19.86	24.60	27.20	29.80
12	36	16.80	18.48	21.90	27.20	30.00	32.80
12	40	18.48	20.14	23.88	28.90	32.80	35.80
16	12	6.10	6.60	8.90	10.76	12.00	13.26
16	32	18.90	20.40	24.00	29.46	32.30	35.00
16	36	21.00	22.74	26.34	30.90	35.60	38.44
16	20	9.06	9.50	12.20	15.30	16.80	18.48
15	24	10.00	10.80	13.60	16.80	18.56	20.30
16	28	16.80	18.36	21.60	26.48	28.96	31.60
16	32	18.90	20.40	24.00	29.46	36.30	35.00
16	36	21.00	22.74	26.34	30.90	35.60	28.44
16	40	21.16	24.96	28.80	35.60	38.80	42.10
18	18	9.20	10.20	12.50	15.30	17.00	18.54
18	20	10.00	11.00	13.40	16.50	18.30	20.00
18	24	16.16	17.76	20.80	25.24	27.90	30.90
18	28	18.48	20.16	23.40	28.60	30.70	34.00
18	32	20.76	22.50	26.00	31.80	34.90	37.76
18	36	23.16	24.90	28.62	35.00	38.40	41.48
18	40	25.50	27.30	31.20	38.46	41.92	44.40
21	21	16.38	18.00	21.00	25.60	28.04	31.36
21	24	18.30	19.92	23.28	27.56	31.90	33.60
21	28	21.00	22.80	26.16	32.00	34.88	37.70
21	32	23.70	25.50	29.46	35.52	38.70	41.72
21	36	26.28	26.20	32.10	39.10	42.50	46.14
21	49	28.98	30.90	35.04	42.76	46.34	49.92
24	24	20.64	22.32	25.68	31.10	34.04	37.00
24	28	23.52	25.38	28.92	35.10	38.28	41.34
24	32	26.52	28.44	32.22	38.92	42.44	45.76
24	36	29.52	31.44	35.52	42.88	46.70	50.24
24	40	32.40	34.44	38.10	47.00	50.80	54.72
24	42	56.60	59.78	66.20	82.90	88.64	95.36

*Hinged on width or short side.

COLUMBIA STEEL SURFACE CABINETS

TYPE A APPROVED CABINETS

For Cutouts, Service Switches and Panel Boards

List Prices of Approved Cabinets

The boxes listed below are made of sheet steel of the required thickness to conform with Board of Undrwriters' requirements and bear the Underwriters' labels. List prices are for code standard type "A" cabinets, finished in black enamel. For galvanized finish, prices quoted on application. Code requirements for double doors and three-point catches are provided in these listings.

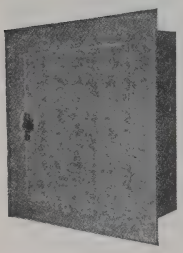
Hinged Side — Unless otherwise specified, all boxes are hinged on the long side with the exception of a few of the smaller sizes.

Knockouts—Cabinets are furnished with standard knockouts. If special knockouts are required, a **$2.00** labor charge for each additional size change will be made regardless of the quantity of boxes ordered. If boxes are wanted without knockouts, please mention it. Boxes without knockouts take list price less discount.

Width Inches	Height Inches	DEPTH IN INCHES					
		3 In.	4 In.	6 In.	8 In.	10 In.	12 In.
24	48	$63.20	$68.30	$75.62	$87.36	$90.24	$97.50
30	24	33.08	34.88	38.60	45.00	48.30	48.70
30	28	36.56	38.60	42.56	49.92	52.40	56.60
30	32	39.44	42.20	46.52	54.40	55.00	61.76
30	36	68.40	72.20	79.60	87.60	93.00	98.40
30	40	75.80	80.20	86.40	97.20	103.20	109.20
30	44	83.40	88.20	94.80	107.00	113.60	120.20
30	48	91.00	96.20	103.00	116.80	123.80	131.00
30	54	119.80	126.30	139.40	162.20	171.80	181.40
30	60	133.20	140.40	155.00	180.00	190.80	201.00
30	66	142.20	149.60	165.20	192.00	203.60	215.60
30	72	159.80	168.40	185.60	216.00	228.80	241.80
36	36	83.40	88.00	94.60	107.00	114.20	120.20
36	42	112.40	118.60	130.80	152.00	161.20	170.20
36	48	128.00	135.00	148.80	173.00	183.40	193.80
36	54	143.60	151.20	166.80	194.20	205.60	217.40
36	60	159.80	168.60	185.80	216.00	228.80	242.00
36	66	175.70	185.40	204.20	237.50	251.60	266.00
36	72	191.60	202.20	222.60	259.00	274.40	290.00
36	78	207.60	219.00	241.60	281.00	297.60	314.60
36	84	223.40	235.60	259.80	302.00	320.00	328.00
42	42	131.00	138.00	152.40	177.00	187.80	198.40
42	48	149.40	157.60	173.80	202.00	214.20	226.40
42	54	168.00	177.10	195.10	227.00	240.60	254.20
42	60	186.60	196.60	216.40	252.00	267.00	282.00
42	66	204.80	216.00	238.00	277.00	293.60	310.20
42	72	223.40	235.60	259.80	302.00	320.00	338.00
42	78	242.60	255.80	282.00	328.00	348.00	367.60
42	84	261.00	275.00	303.60	353.00	374.00	395.00
42	90	279.60	294.60	325.00	378.00	400.40	423.40
42	96	298.40	314.80	347.00	403.60	427.80	452.00
48	48	171.00	180.20	196.80	230.80	244.60	258.60
48	54	191.60	203.60	222.60	258.80	274.40	290.00
48	60	213.00	224.60	247.60	288.00	305.60	322.40
48	66	234.40	247.00	272.40	316.60	335.60	354.60
48	72	256.00	270.00	297.60	356.00	366.80	387.60
48	78	276.60	291.80	321.60	374.00	396.80	419.20
48	84	298.60	314.80	347.20	403.60	427.40	452.00
48	90	319.00	336.20	372.60	431.00	457.00	483.60
48	96	340.40	358.80	395.60	460.00	487.60	513.60
54	54	215.80	227.60	250.80	292.00	309.40	327.00
54	60	239.60	252.80	278.40	324.00	343.60	363.00
54	66	263.40	277.60	306.00	356.00	367.40	398.80
54	72	287.00	302.40	333.60	388.00	411.40	434.40
54	78	310.80	327.60	361.40	420.00	445.20	470.80
54	84	333.60	351.40	387.00	450.00	477.20	504.20
54	96	377.60	397.80	439.00	510.00	540.40	571.60
60	60	262.80	277.00	305.60	355.00	376.40	397.60
60	66	288.60	304.20	335.60	390.00	413.60	416.40
60	72	318.40	335.60	370.00	430.00	456.00	482.00
60	78	341.60	360.00	397.00	462.40	489.60	516.80
60	84	370.00	390.00	430.00	500.00	530.00	560.00
60	90	396.00	417.00	460.00	517.60	567.60	599.20
60	96	421.60	444.00	490.00	570.00	604.00	638.00

COLUMBIA FLUSH CABINETS

TYPE P FLUSH CABINETS



List Prices of Approved Cabinets

The boxes listed below are made of sheet steel of the required thickness to conform with Board of Underwriters' requirements, and bear the Underwriters' labels.

Approved Cabinets are always furnished unless otherwise specified. Standard finish is black baked japan.

Width Inches	Height Inches	DEPTH IN INCHES					
		3 In.	4 In.	6 In.	8 In.	10 In.	12 In.
4½	5	$7.12	$7.80	....	....	....	....
4½	9	7.38	8.00	$10.50	....	....	....
6	6	7.32	7.90	9.20	....	....	....
6	9	7.76	8.42	10.00	....	....	....
6	10	7.94	8.60	10.40	$10.60	$11.20	$12.00
6	11	8.18	8.90	10.60	11.00	11.50	12.50
6	12	8.42	9.08	10.30	12.90	13.14	13.80
6	16	9.38	10.16	12.00	14.00	15.90	17.00
6	8	7.62	8.22	9.70	10.06	10.66	11.70
8	8	8.22	8.82	10.50	11.20	11.92	12.90
8	10	8.76	9.48	11.10	12.20	13.10	13.90
8	12	9.10	9.88	11.50	13.10	14.00	15.00
9	9	8.66	9.38	11.00	12.30	13.10	13.90
8	15	9.94	10.54	12.30	14.70	15.78	17.40
8	18	10.78	11.08	14.00	16.50	17.70	18.54
9	12	9.50	10.22	11.80	13.90	14.90	16.00
9	15	10.40	11.24	13.10	15.80	16.90	18.00
9	16	10.76	11.60	14.00	16.40	17.54	18.62
9	18	11.36	12.40	15.50	17.60	18.80	19.62
9	20	12.20	13.40	16.70	18.80	19.34	21.24
9	24	14.50	16.00	18.20	19.60	22.40	24.56
9	28	20.60	22.32	26.90	28.62	31.58	34.74
9	32	22.76	25.02	29.96	31.68	35.64	38.70
9	36	22.92	27.72	33.02	34.74	39.68	42.74
10	10	9.22	9.94	11.60	13.46	14.70	15.36
10	12	9.88	11.26	13.10	14.74	15.50	17.60
10	15	10.84	11.68	14.20	16.58	18.16	18.36
10	18	12.00	13.10	16.60	18.34	18.72	20.70
10	20	13.50	15.00	17.20	18.50	20.44	22.58
10	24	15.10	16.50	18.80	21.24	23.56	25.92
10	28	21.84	24.04	28.70	30.40	33.44	36.54
10	32	26.64	27.00	32.84	34.20	37.40	41.04
10	36	27.44	30.00	36.96	38.00	41.40	45.54
12	12	10.00	11.50	14.50	15.80	17.00	17.70
12	16	12.70	14.10	17.00	17.70	19.36	24.84
12	18	14.80	15.70	18.50	19.08	21.04	23.12
12	20	15.30	16.90	18.50	20.64	22.84	25.02
12	24	17.20	17.80	21.16	22.96	26.28	28.70
12	28	25.00	27.16	31.96	33.76	37.20	40.40
12	32	28.00	30.30	35.44	38.00	41.40	45.00
12	36	30.96	33.44	39.00	42.20	46.50	49.94
12	40	33.90	36.72	42.48	46.40	50.80	54.90
16	12	13.00	14.60	16.50	17.60	19.36	21.24
16	15	15.00	16.30	18.10	20.16	22.50	22.38
16	18	16.60	17.30	20.32	22.84	25.20	27.44
16	20	17.20	18.72	21.84	24.84	27.16	31.60
16	24	19.00	20.50	24.12	27.24	29.84	31.58
16	28	31.04	33.30	38.54	41.08	44.48	48.78
16	32	35.00	37.40	43.04	45.90	49.84	53.54
16	36	38.96	41.50	47.50	50.76	57.24	58.36
16	40	42.92	45.68	52.00	54.76	60.60	63.10
18	18	17.32	18.80	22.12	24.84	27.36	29.76
18	20	18.72	20.44	23.86	26.84	29.50	31.96
18	24	29.70	32.20	37.36	39.54	42.80	46.32
18	28	34.20	36.72	41.84	44.76	46.24	51.84
18	32	38.70	41.20	46.32	49.76	53.64	57.30
18	36	43.20	45.76	50.84	54.88	59.00	62.80
18	40	47.70	50.32	55.30	60.00	64.40	68.36
21	21	24.16	26.10	29.70	33.40	36.00	38.80
21	24	34.10	36.44	41.76	44.84	48.42	52.00
21	28	38.96	41.56	47.00	50.04	54.00	58.00
21	32	43.84	46.76	52.20	55.20	59.60	63.90
21	36	48.72	51.90	57.40	60.48	65.10	69.90
21	40	53.52	56.88	63.50	65.70	70.70	75.70
24	24	38.00	40.50	46.10	48.80	52.50	56.44
24	28	43.40	46.10	51.90	55.20	59.40	64.40
24	32	48.80	51.60	57.60	61.56	66.30	70.70
24	36	54.10	57.24	63.36	69.90	73.10	79.70
24	40	59.60	62.80	69.10	74.40	79.90	84.90
24	42	72.90	77.40	87.30	105.30	113.40	122.40
24	48	87.40	90.00	101.24	122.40	126.90	137.10
30	24	56.24	48.10	54.88	58.50	63.00	67.50
30	28	52.70	55.60	61.90	65.90	70.50	75.40
30	32	59.30	62.30	68.90	73.30	78.10	83.00
30	36	79.60	84.80	94.10	100.80	106.20	113.40

Larger sizes—prices on application.

COLUMBIA TRANSFORMER CABINETS

Made of code gauge steel, with hinged doors, with knockouts from ½" to 3" on all sides, hasp for seal or padlock, finished black enamel.

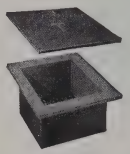
Standard sizes available. Single Door: 24x24x10, 30x24x10, 36x24x10 inches. Double Door: 30x30x10, 36x30x10; 36x36x10 inches. Also available made of galvanized steel.

Prices on application.

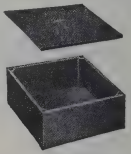
T & B CAST IRON JUNCTION BOXES AND COVERS

FLANGED AND UNFLANGED TYPES

Approved by Underwriters' Laboratories



Flanged



Unflanged

Flanged and unflanged cast iron boxes are watertight and weatherproof when gasketed. They are heavy walled boxes designed to meet the most rigid requirements of subway, industrial, marine, underground work, etc. Thinner walled boxes may be furnished, if desired, at less cost.

Boxes listed are all hot dip galvanized. Drilling and tapping information on request.

Flanged Type

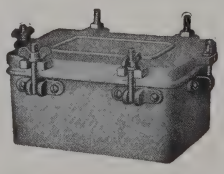
Cat. No.	Size Inches Wdth.	Lgth.	Dpth.	Box Only Price Ea.	Box and Cover Price Ea.	Wt. Lbs. Complete	Gasket Price Each
10897	6	x 6	x 3	$11.75	$17.50	9	$2.50
10898	6	x 6	x 4	15.50	21.25	8	2.50
10915	6	x 6	x 6	18.00	23.75	14	2.50
10900	6	x 8	x 3	19.25	25.00	14	3.00
10902	6	x 8	x 4	20.50	26.25	15	3.00
10916	6	x 8	x 6	23.00	28.75	15.5	3.00
10906	6	x12	x 3	23.75	30.00	20	4.25
10908	6	x12	x 4	27.50	33.75	19	4.25
10910	6	x12	x 6	50.00	56.25	24	4.25
10904	8	x 8	x 6	29.25	37.50	18	3.75
10764	8	x12	x 6	43.75	57.50	28	4.25
10911	12	x12	x 6	65.00	82.50	52	5.00
10771	12	x18	x12	150.00	175.00	130	5.75
10785	12	x24	x12	172.50	212.50	113	12.25

Unflanged Type

10861	4	x 4	x 2	4.15	5.65	2.5	.90
10862	4	x 4	x 3	4.65	6.25	3.5	.90
10703	4	x 6	x 4	8.15	11.25	7.75	1.25
10962	6	x 6	x 3	9.50	13.25	7.5	2.00
10868	6	x 6	x 4	11.25	15.00	8.5	2.00
10964	6	x 6	x 6	15.00	18.75	14.5	2.00
10871	6	x 8	x 3	12.50	16.25	10.5	2.50
10872	6	x 8	x 4	15.00	18.75	10.5	2.50
10874	6	x 8	x 6	18.75	22.50	15.5	2.50
10880	6	x12	x 3	19.50	18.75	18	4.15
10968	6	x12	x 4	22.00	31.25	21	4.15
10882	6	x12	x 6	24.50	33.75	27	4.15
10718	8	x12	x 6	38.40	45.00	37	5.00
10969	12	x12	x 6	43.00	55.00	39	6.50

WEATHERPROOF CAST IRON JUNCTION BOXES

Approved by Underwriters' Laboratories

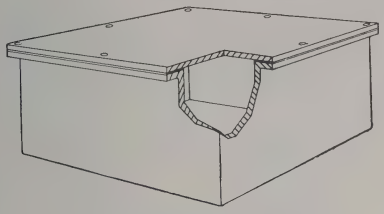


Sturdy boxes built for rugged service. Hinged covers, supplied with thumb nuts on all 4 sides, making a watertight weatherproof job when tightened. All weatherproof type boxes are furnished with gaskets as standard equipment.

Cat. No.	Size Inches			Wt. Lbs. Box	Wt. Lbs. Cover	Price Each
10503	6	x 8	x 4	15	4	$50.00
10511	8	x 8	x 6	10.3	4.5	62.50
10538	8	x12	x 6	10	8	90.00
10539	12	x12	x 6	23	12	120.00
10535	12	x16	x 8	160	26	175.00
10547	18	x18	x 8	85	29	240.00

O.Z. CAST IRON JUNCTION BOXES

FLAT FLANGED BOXES FOR SURFACE MOUNTING—TYPE "YF"



At Additional Cost

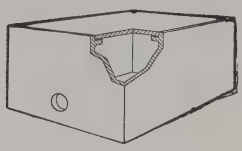
(1) Slip-holes or drilling and tappings.
(2) Bosses to provide five full threads.
(3) Mounting lugs.
(4) Interior mounting buttons.
(5) Special gaskets and covers.

Catalog Number	Dimensions in Inches L W D	Approx. Wall Thick.*	Approx. Wt. Lbs.	List Price
YF040403	4 x 4 x 3	5/16	6.0	
YF040404	4 x 4 x 4	5/16	6.8	
YF060403	6 x 4 x 3	5/16	7.6	
YF060404	6 x 4 x 4	5/16	8.2	
YF060603	6 x 6 x 3	5/16	10.0	
YF060604	6 x 6 x 4	5/16	11.0	
YF060606	6 x 6 x 6	9/32	17.0	
YF080403	8 x 4 x 3	5/16	10.0	
YF080404	8 x 4 x 4	7/32	11.0	
YF080604	8 x 6 x 4	7/32	15.0	
YF080606	8 x 6 x 6	9/32	21.0	
YF080804	8 x 8 x 4	7/32	21.0	
YF080806	8 x 8 x 6	9/32	25.0	
YF080808	8 x 8 x 8	5/16	36.0	
YF100604	10 x 6 x 4	7/32	21.0	
YF100606	10 x 6 x 6	9/32	26.0	
YF100804	10 x 8 x 4	7/32	28.0	
YF100806	10 x 8 x 6	9/32	33.0	
YF100808	10 x 8 x 8	5/16	37.0	
YF101004	10 x 10 x 4	7/32	35.0	
YF101006	10 x 10 x 6	1/4	38.0	
YF101008	10 x 10 x 8	9/32	44.0	
YF120404	12 x 4 x 4	7/32	25.0	
YF120603	12 x 6 x 3	5/16	20.0	
YF120604	12 x 6 x 4	7/32	25.0	
YF120606	12 x 6 x 6	9/32	30.0	
YF120804	12 x 8 x 4	7/32	29.0	
YF120806	12 x 8 x 6	9/32	34.0	
YF120808	12 x 8 x 8	5/16	42.0	
YF121004	12 x 10 x 4	1/4	29.0	
YF121006	12 x 10 x 6	9/32	40.0	
YF121008	12 x 10 x 8	5/16	48.0	
YF121204	12 x 12 x 4	1/4	48.0	
YF121206	12 x 12 x 6	9/32	53.0	
YF121208	12 x 12 x 8	5/16	62.0	
YF121210	12 x 12 x 10	11/32	75.0	
YF121212	12 x 12 x 12	3/8	88.0	
YF140804	14 x 8 x 4	1/4	33.0	
YF140806	14 x 8 x 6	9/32	38.0	
YF140808	14 x 8 x 8	5/16	50.0	
YF141406	14 x 14 x 6	9/32	72.0	
YF141408	14 x 14 x 8	5/16	77.0	
YF141410	14 x 14 x 10	11/32	104.0	
YF161204	16 x 12 x 4	1/4	57.0	
YF161206	16 x 12 x 6	9/32	62.0	
YF161208	16 x 12 x 8	5/16	72.0	
YF180606	18 x 6 x 6	9/32	48.0	
YF180804	18 x 8 x 4	1/4	49.0	
YF180806	18 x 8 x 6	9/32	54.0	
YF181204	18 x 12 x 4	1/4	71.0	
YF181206	18 x 12 x 6	9/32	80.0	
YF181208	18 x 12 x 8	5/16	88.0	
YF181210	18 x 12 x 10	3/8	96.0	
YF181212	18 x 12 x 12	7/16	130.0	
YF181806	18 x 18 x 6	5/16	120.0	
YF181808	18 x 18 x 8	11/32	130.0	
YF181810	18 x 18 x 10	3/8	160.0	
YF181812	18 x 18 x 12	7/16	178.0	
YF241206	24 x 12 x 6	9/32	118.0	
YF241208	24 x 12 x 8	5/16	132.0	
YF241212	24 x 12 x 12	7/16	170.0	
YF241806	24 x 18 x 6	5/16	142.0	
YF241808	24 x 18 x 8	11/32	165.0	
YF241812	24 x 18 x 12	7/16	200.0	
YF242406	24 x 24 x 6	5/16	215.0	
YF242408	24 x 24 x 8	11/32	225.0	
YF242410	24 x 24 x 10	3/8	255.0	
YF242412	24 x 24 x 12	7/16	290.0	
YF281208	28 x 12 x 8	3/8	145.0	
YF281212	28 x 12 x 12	7/16	175.0	
YF302412	30 x 24 x 12	7/16	375.0	
YF361808	36 x 18 x 8	3/8	250.0	

PRICES ON APPLICATION

* Measured 2" up from back of box.

INSIDE FLANGED RECESSED COVER BOXES FOR FLUSH MOUNTING—TYPE "YU"



Standard Construction

(1) Cast iron box and plain cover.
(2) Hot-Dip Galvanized finish.
(3) Rubber Gasket.
(4) Brass cover screws.
(5) Steel checkered cover supplied if specified.

At Additional Cost

(1) Slip-holes or drilling and tappings.
(2) Bosses to provide five full threads.
(3) Mounting lugs.
(4) Interior mounting buttons.
(5) Special gaskets and covers.
(6) Hinges, hasp for padlocks or cylinder lock. Prices on application.

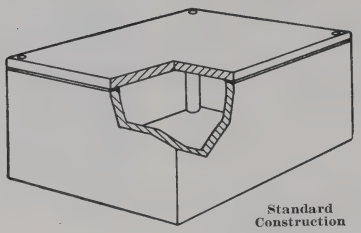
Catalog Number	Dimensions in Inches L W D	Approx. Wall Thick.	Approx. Wt. Lbs.	List Price
YU040402	4 x 4 x 2	1/4	6.5	
YU040403	4 x 4 x 3	1/4	8.5	
YU040404	4 x 4 x 4	1/4	9.5	
YU060403	6 x 4 x 3	1/4	10.0	
YU060404	6 x 4 x 4	1/4	10.5	
YU060604	6 x 6 x 4	1/4	14.0	
YU060606	6 x 6 x 6	1/4	18.0	
YU080404	8 x 4 x 4	1/4	14.0	
YU080604	8 x 6 x 4	1/4	18.0	
YU080606	8 x 6 x 6	1/4	21.0	
YU080804	8 x 8 x 4	1/4	20.5	
YU080806	8 x 8 x 6	1/4	26.0	
YU080808	8 x 8 x 8	1/4	33.0	
YU100604	10 x 6 x 4	1/4	21.0	
YU100804	10 x 8 x 4	1/4	26.0	
YU100805	10 x 8 x 5	1/4	28.0	
YU100806	10 x 8 x 6	1/4	31.0	
YU101004	10 x 10 x 4	1/4	30.0	
YU101006	10 x 10 x 6	1/4	35.0	
YU101008	10 x 10 x 8	1/4	45.0	
YU120604	12 x 6 x 4	1/4	25.0	
YU120606	12 x 6 x 6	1/4	29.0	
YU120804	12 x 8 x 4	1/4	28.5	
YU120806	12 x 8 x 6	1/4	34.5	
YU120808	12 x 8 x 8	1/4	41.0	
YU121204	12 x 12 x 4	1/4	38.0	
YU121206	12 x 12 x 6	1/4	46.0	
YU121208	12 x 12 x 8	5/16	53.0	
YU121212	12 x 12 x 12	5/16	64.0	
YU140806	14 x 8 x 6	1/4	38.0	
YU141404	14 x 14 x 4	1/4	48.0	
YU141406	14 x 14 x 6	1/4	58.0	
YU141408	14 x 14 x 8	5/16	66.0	
YU160604	16 x 6 x 4	1/4	32.0	
YU160606	16 x 6 x 6	1/4	37.0	
YU160804	16 x 8 x 4	1/4	36.0	
YU161206	16 x 12 x 6	1/4	59.0	
YU161208	16 x 12 x 8	5/16	70.0	

PRICES ON APPLICATION

O.Z. CAST IRON JUNCTION BOXES

UNFLANGED JUNCTION OR PULL BOXES

FOR SURFACE MOUNTING—TYPE "YS"



Standard Construction

Standard Construction

(1) Cast iron box and plain cover.
(2) Hot-Dip Galvanized finish.
(3) Rubber Gasket.
(4) Brass cover screws.

At Additional Cost

(1) Slip-holes or drilling and tappings.
(2) Bosses to provide five full threads.
(3) Mounting lugs.
(4) Interior mounting buttons.
(5) Special gaskets and covers.

Catalog Number	Dimensions in Inches L W D	Approx. Wall Thick.*	Approx. Wt. Lbs.	List Price
YS040202	4 x 2 x 2	5/32	2.0	
YS040402	4 x 4 x 2	5/32	3.7	
YS040403	4 x 4 x 3	3/16	4.8	
YS040404	4 x 4 x 4	3/16	6.9	
YS050503	5 x 5 x 3	3/16	6.7	
YS050504	5 x 5 x 4	3/16	7.2	
YS060403	6 x 4 x 3	3/16	6.7	
YS060404	6 x 4 x 4	3/16	8.2	
YS060603	6 x 6 x 3	3/16	8.0	
YS060604	6 x 6 x 4	3/16	11.0	
YS060605	6 x 6 x 5	1/4	13.0	
YS060606	6 x 6 x 6	9/32	16.0	
YS070503	7 x 5 x 3	3/16	7.9	
YS080403	8 x 4 x 3	3/16	8.5	
YS080404	8 x 4 x 4	7/32	9.5	
YS080603	8 x 6 x 3	3/16	11.7	
YS080604	8 x 6 x 4	7/32	12.0	
YS080605	8 x 6 x 5	1/4	15.7	
YS080606	8 x 6 x 6	9/32	20.0	
YS080803	8 x 8 x 3	3/16	15.5	
YS080804	8 x 8 x 4	7/32	16.5	
YS080805	8 x 8 x 5	1/4	22.5	
YS080806	8 x 8 x 6	9/32	23.8	
YS080808	8 x 8 x 8	5/16	32.0	
YS090603	9 x 6 x 3	3/16	12.0	
YS090604	9 x 6 x 4	7/32	14.2	
YS100504	10 x 5 x 4	7/32	15.0	
YS100604	10 x 6 x 4	7/32	16.0	
YS100605	10 x 6 x 5	1/4	21.0	
YS100606	10 x 6 x 6	9/32	23.0	
YS100804	10 x 8 x 4	7/32	20.5	
YS100805	10 x 8 x 5	1/4	24.2	
YS100806	10 x 8 x 6	9/32	26.2	
YS100808	10 x 8 x 8	5/16	36.0	
YS101003	10 x 10 x 3	3/16	22.0	
YS101004	10 x 10 x 4	7/32	24.0	
YS101005	10 x 10 x 5	1/4	27.0	
YS101006	10 x 10 x 6	1/4	28.5	
YS120404	12 x 4 x 4	7/32	15.0	
YS120603	12 x 6 x 3	3/16	16.7	
YS120604	12 x 6 x 4	7/32	18.7	
YS120606	12 x 6 x 6	9/32	23.2	
YS120804	12 x 8 x 4	7/32	24.0	
YS120806	12 x 8 x 6	9/32	30.7	
YS120808	12 x 8 x 8	5/16	40.8	
YS121004	12 x 10 x 4	1/4	28.8	
YS121005	12 x 10 x 5	9/32	33.8	
YS121006	12 x 10 x 6	9/32	35.8	
YS121008	12 x 10 x 8	5/16	44.0	
YS121203	12 x 12 x 3	3/16	29.0	
YS121204	12 x 12 x 4	1/4	32.0	
YS121206	12 x 12 x 6	9/32	37.0	
YS121208	12 x 12 x 8	5/16	49.0	
YS121210	12 x 12 x 10	11/32	71.0	
YS121212	12 x 12 x 12	3/8	78.0	
YS140804	14 x 8 x 4	1/4	24.5	
YS140806	14 x 8 x 6	9/32	30.0	
YS141006	14 x 10 x 6	9/32	50.0	

PRICES ON APPLICATION

Catalog Number	Dimensions in Inches L W D	Approx. Wall Thick.*	Approx. Wt. Lbs.	List Price
YS141008	14 x 10 x 8	5/16	56.0	
YS141406	14 x 14 x 6	9/32	56.0	
YS141408	14 x 14 x 8	5/16	62.0	
YS141410	14 x 14 x 10	11/32	88.0	
YS150604	15 x 6 x 4	1/4	27.0	
YS150808	15 x 8 x 8	5/16	58.0	
YS150904	15 x 9 x 4	1/4	30.0	
YS150906	15 x 9 x 6	9/32	33.0	
YS151006	15 x 10 x 6	9/32	46.0	
YS161204	16 x 12 x 4	1/4	54.0	
YS161206	16 x 12 x 6	9/32	58.0	
YS161208	16 x 12 x 8	5/16	62.0	
YS161606	16 x 16 x 6	9/32	68.0	
YS180604	18 x 6 x 4	1/4	31.0	
YS180606	18 x 6 x 6	9/32	43.0	
YS180806	18 x 8 x 6	9/32	46.0	
YS180808	18 x 8 x 8	5/16	56.0	
YS181204	18 x 12 x 4	1/4	54.0	
YS181206	18 x 12 x 6	9/32	58.0	
YS181208	18 x 12 x 8	5/16	74.0	
YS181210	18 x 12 x 10	9/8	88.0	
YS181212	18 x 12 x 12	7/16	119.0	
YS181606	18 x 16 x 6	9/32	81.0	
YS181608	18 x 16 x 8	5/16	86.0	
YS181806	18 x 18 x 6	5/16	81.0	
YS181808	18 x 18 x 8	11/32	98.0	
YS181810	18 x 18 x 10	3/8	148.0	
YS181812	18 x 18 x 12	7/16	151.0	
YS201006	20 x 10 x 6	9/32	63.0	
YS201008	20 x 10 x 8	5/16	68.0	
YS240806	24 x 8 x 6	9/32	70.0	
YS240808	24 x 8 x 8	11/32	80.0	
YS241206	24 x 12 x 6	9/32	89.0	
YS241208	24 x 12 x 8	5/16	106.0	
YS241212	24 x 12 x 12	7/16	129.0	
YS241606	24 x 16 x 6	9/32	103.0	
YS241608	24 x 16 x 8	11/32	115.0	
YS241806	24 x 18 x 6	5/16	120.0	
YS241808	24 x 18 x 8	11/32	138.0	
YS241810	24 x 18 x 10	3/8	165.0	
YS241812	24 x 18 x 12	7/16	180.0	
YS242006	24 x 20 x 6	5/16	160.0	
YS242008	24 x 20 x 8	11/32	174.0	
YS242406	24 x 24 x 6	5/16	168.0	
YS242408	24 x 24 x 8	11/32	184.0	
YS242410	24 x 24 x 10	3/8	228.0	
YS242412	24 x 24 x 12	7/16	270.0	
YS281206	28 x 12 x 6	5/16	128.0	
YS281208	28 x 12 x 8	3/8	136.0	
YS281212	28 x 12 x 12	7/16	244.0	
YS300806	30 x 8 x 6	9/32	80.0	
YS300808	30 x 8 x 8	11/32	102.0	
YS301808	30 x 18 x 8	11/32	200.0	
YS301812	30 x 18 x 12	7/16	310.0	
YS301814	30 x 18 x 14	9/16	367.0	
YS302408	30 x 24 x 8	3/8	220.0	
YS302412	30 x 24 x 12	7/16	265.0	
YS361808	36 x 18 x 8	3/8	224.0	

PRICES ON APPLICATION

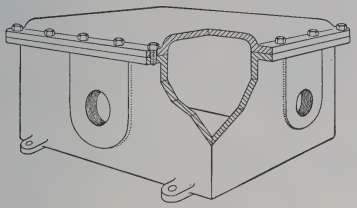
* Measured 2" up from back of box.

O.Z. CAST IRON JUNCTION BOXES

EXPLOSION PROOF AND DUST TIGHT BOXES

For Surface Mounting—Type "YE"

NEMA 7—CLASS I, GROUP D



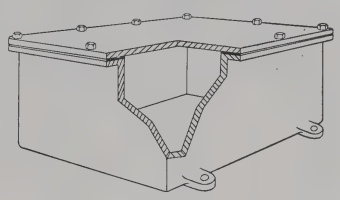
Catalog Number	Dimensions in Inches L W D	Approx. Wall Thick.	Approx. Wt. Lbs.	List Price
YE040404	4 x 4 x 4	5/16	18.0	
YE050503	5 x 5 x 3	5/16	20.0	
YE050504	5 x 5 x 4	5/16	22.0	
YE060403	6 x 4 x 3	5/16	19.0	
YE060404	6 x 4 x 4	5/16	22.0	
YE060604	6 x 6 x 4	5/16	28.0	
YE060606	6 x 6 x 6	5/16	38.0	
YE080404	8 x 4 x 4	5/16	26.0	
YE080604	8 x 6 x 4	5/16	30.0	
YE080606	8 x 6 x 6	5/16	36.0	
YE080804	8 x 8 x 4	5/16	45.0	
YE080806	8 x 8 x 6	5/16	52.0	
YE080808	8 x 8 x 8	5/16	60.0	
YE100604	10 x 6 x 4	5/16	38.0	
YE100606	10 x 6 x 6	3/8	49.0	
YE100804	10 x 8 x 4	3/8	50.0	
YE100806	10 x 8 x 6	3/8	66.0	
YE100808	10 x 8 x 8	3/8	76.0	
YE101004	10 x 10 x 4	3/8	60.0	
YE101006	10 x 10 x 6	3/8	70.0	
YE120604	12 x 6 x 4	3/8	48.0	
YE120606	12 x 6 x 6	3/8	70.0	
YE120806	12 x 8 x 6	3/8	74.0	
YE120808	12 x 8 x 8	3/8	87.0	
YE121204	12 x 12 x 4	3/8	85.0	
YE121206	12 x 12 x 6	3/8	96.0	
YE121208	12 x 12 x 8	3/8	119.0	
YE121212	12 x 12 x 12	3/8	128.0	
YE140806	14 x 8 x 6	3/8	82.0	
YE140808	14 x 8 x 8	3/8	95.0	
YE141404	14 x 14 x 4	7/16	101.0	
YE141406	14 x 14 x 6	7/16	145.0	
YE141408	14 x 14 x 8	7/16	151.0	
YE141410	14 x 14 x 10	7/16	159.0	
YE161006	16 x 10 x 6	7/16	102.0	
YE161206	16 x 12 x 6	7/16	120.0	
YE161208	16 x 12 x 8	7/16	150.0	
YE161410	16 x 14 x 10	7/16	176.0	
YE180606	18 x 6 x 6	7/16	90.0	
YE181204	18 x 12 x 4	7/16	124.0	
YE181206	18 x 12 x 6	7/16	142.0	
YE181208	18 x 12 x 8	7/16	158.0	
YE181210	18 x 12 x 10	7/16	180.0	
YE181212	18 x 12 x 12	7/16	197.0	
YE181806	18 x 18 x 6	7/16	201.0	
YE181808	18 x 18 x 8	7/16	226.0	
YE181812	18 x 18 x 12	7/16	251.0	
YE201008	20 x 10 x 8	7/16	157.0	
YE241206	24 x 12 x 6	7/16	180.0	
YE241208	24 x 12 x 8	7/16	200.0	
YE241210	24 x 12 x 10	7/16	228.0	
YE241212	24 x 12 x 12	7/16	255.0	
YE241806	24 x 18 x 6	7/16	226.0	
YE241808	24 x 18 x 8	7/16	265.0	
YE241812	24 x 18 x 12	7/16	290.0	
YE242406	24 x 24 x 6	7/16	290.0	
YE242408	24 x 24 x 8	7/16	320.0	
YE242410	24 x 24 x 10	7/16	348.0	

PRICES ON APPLICATION

HEAVY DUTY BOXES

For Surface Mounting—Type "YH"

NEMA 4—WATERTIGHT



Catalog Number	Dimensions in Inches L W D	Approx. Wall Thick.	Approx. Wt. Lbs.	List Price
YH040404	4 x 4 x 4	5/16	18.0	
YH050503	5 x 5 x 3	5/16	20.0	
YH050504	5 x 5 x 4	5/16	22.0	
YH060403	6 x 4 x 3	5/16	19.0	
YH060404	6 x 4 x 4	5/16	22.0	
YH060604	6 x 6 x 4	5/16	28.0	
YH060606	6 x 6 x 6	5/16	38.0	
YH080404	8 x 4 x 4	5/16	26.0	
YH080604	8 x 6 x 4	5/16	30.0	
YH080606	8 x 6 x 6	5/16	36.0	
YH080804	8 x 8 x 4	5/16	45.0	
YH080806	8 x 8 x 6	5/16	52.0	
YH080808	8 x 8 x 8	5/16	60.0	
YH100604	10 x 6 x 4	5/16	38.0	
YH100606	10 x 6 x 6	3/8	49.0	
YH100804	10 x 8 x 4	3/8	50.0	
YH100806	10 x 8 x 6	3/8	66.0	
YH100808	10 x 8 x 8	3/8	76.0	
YH101004	10 x 10 x 4	3/8	60.0	
YH101006	10 x 10 x 6	3/8	70.0	
YH120604	12 x 6 x 4	3/8	48.0	
YH120606	12 x 6 x 6	3/8	70.0	
YH120806	12 x 8 x 6	3/8	74.0	
YH120808	12 x 8 x 8	3/8	87.0	
YH121204	12 x 12 x 4	3/8	85.0	
YH121206	12 x 12 x 6	3/8	96.0	
YH121208	12 x 12 x 8	3/8	119.0	
YH121212	12 x 12 x 12	3/8	128.0	
YH140806	14 x 8 x 6	3/8	82.0	
YH140808	14 x 8 x 8	3/8	95.0	
YH141404	14 x 14 x 4	7/16	101.0	
YH141406	14 x 14 x 6	7/16	145.0	
YH141408	14 x 14 x 8	7/16	151.0	
YH141410	14 x 14 x 10	7/16	159.0	
YH161006	16 x 10 x 6	7/16	102.0	
YH161206	16 x 12 x 6	7/16	120.0	
YH161208	16 x 12 x 8	7/16	150.0	
YH161410	16 x 14 x 10	7/16	176.0	
YH180606	18 x 6 x 6	7/16	90.0	
YH181204	18 x 12 x 4	7/16	124.0	
YH181206	18 x 12 x 6	7/16	142.0	
YH181208	18 x 12 x 8	7/16	158.0	
YH181210	18 x 12 x 10	7/16	180.0	
YH181212	18 x 12 x 12	7/16	197.0	
YH181806	18 x 18 x 6	7/16	201.0	
YH181808	18 x 18 x 8	7/16	226.0	
YH181812	18 x 18 x 12	7/16	251.0	
YH201008	20 x 10 x 8	7/16	157.0	
YH241206	24 x 12 x 6	7/16	180.0	
YH241208	24 x 12 x 8	7/16	200.0	
YH241210	24 x 12 x 10	7/16	228.0	
YH241212	24 x 12 x 12	7/16	255.0	
YH241806	24 x 18 x 6	7/16	226.0	
YH241808	24 x 18 x 8	7/16	265.0	
YH241812	24 x 18 x 12	7/16	290.0	
YH242406	24 x 24 x 6	7/16	290.0	
YH242408	24 x 24 x 8	7/16	320.0	
YH242410	24 x 24 x 10	7/16	348.0	

PRICES ON APPLICATION

PAINE OUTLET BOX AND FIXTURE HANGER

For Use in Tile and Metal Ceilings, also Lath and Plaster Walls and Ceilings

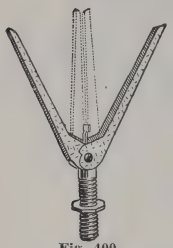


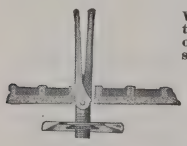
Fig. 400

The Paine Outlet Box and Fixture Hangers are the easiest to install and most serviceable hangers ever designed. They are very easily adapted for use in tile and metal ceilings and lath and plastered walls and ceilings. This time and labor-saving convenience guarantees a neat and rapid installation. Outlet boxes can be attached to hanger before they are placed in position.

It consists of two wings, each mounted on a ⅜-inch nipple which is 2¼ inches long. Through the center of the nipple is a key which locks the wings when they are in open position. The nipple is fitted with a lock-nut to hold the outlet box against the wall or ceiling. The wings are 5½ inches long, providing 11 inches of holding surface when open. They may be installed in an opening as small as 1⅛ inches in diameter.

Price, Outlet Box and Fixture Hanger (Fig. 400).....per 100 **$67.00**

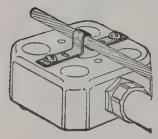
Packed 50 to carton; shipping weight 30 lbs. per 100.



Wings fold together as illustrated through hole in wall or ceiling and open to anchoring position when inserted. Key locks wings securely.

MINERALLAC MESSENGER STRAP

FOR CONDUIT BOXES



This strap, made of cadmium plated steel or Everdur metal, is designed for messenger cable installation and to be used in conjunction with the Mineralac messenger hanger. Fits all standard outlet boxes and ⅜-inch messenger cable.

Size Inch	Quantity per Box	Approx. Wt. per Box, Lbs.	Price Per 100 Steel	Price Per 100 Everdur
⅜	100	3¼	**$3.00**	**$6.30**

SNAP-IN BLANKS AND BUSHINGS

No. 150

Snap-in Blanks are used for closing up the knockouts in service or outlet boxes.

Snap-in Bushings — The hole in the ½-inch bushing will take single braid rubber covered wire up to No. 8; ¾-inch will take double braid wire up to No. 4.

Snap-In Blanks

Cat. No.	Size Inches	Wt. Lbs. Per 1000	Cat. No.	Size Inches	Wt. Lbs. Per 1000
150	½	17	**153**	1¼	40
151	¾	20	**154**	1½	43
152	1	30	**155**	2	65

Snap-In Bushings

150-B	½	15	**151-B**	¾	20

T & B KNOCKOUT PLUGS

Approved by Underwriters' Laboratories

Quickly installed. Fits tightly and stays put. Face is convex and slotted. A slight blow flattens it and spreads lugs.

Made to fit ½-, ¾-, 1¼- and 1½-inch knockouts. Patented.

Cat. No.	Size	Price Per 100
1451	Made to fit ½-inch knockout	**$9.00**
1452	Made to fit ¾-inch knockout	**12.00**

T & B REDUCING WASHERS

(Drilled Pennies)

Approved by Underwriters' Laboratories

T & B Reducing Washers are designed to reduce the size of knockouts in outlet boxes.

Made of steel and galvanized.

Cat. No.	Size, Inches K.O.	Conduit	Unit Pkg.	Std. Pkg.	Wt. Lbs. Per 1000	Price Per 100
3700	¾ to	⅜	250	500	10	**$5.80**
3701	¾ to	½	250	500	10	**5.40**
3702	1 to	⅜	125	250	15	**10.50**
3703	1 to	½	125	250	13	**10.50**
3704	1 to	¾	125	250	25	**10.50**
3705	1¼ to	⅜	125	250	20	**15.75**
3706	1¼ to	½	125	250	18	**15.75**
3707	1¼ to	¾	125	250	13	**14.00**
3708	1¼ to	1	125	250	30	**14.00**
3709	1½ to	⅜	50	100	28	**19.00**
3710	1½ to	½	50	100	25	**19.00**
3711	1½ to	¾	50	100	23	**19.00**
3712	1½ to	1	50	100	40	**15.75**
3713	1½ to	1¼	50	100	38	**15.75**
3714	2 to	½	50	100	35	**25.00**
3715	2 to	¾	50	100	72	**25.00**
3716	2 to	1	50	100	68	**21.00**
3717	2 to	1¼	50	100	63	**21.00**
3718	2 to	1½	50	100	56	**21.00**
3724	2½ to	2	25	100	80	**40.00**

G-E ¾- TO ½-INCH KNOCKOUT ADAPTER

SP7160

This knockout adapter makes it possible to convert a ¾-inch KO into a ½-in. KO. The adapter consists of a special reducing locknut and a collar which permits the use of ½-inch threaded connectors in a ¾-inch KO.

Cat. No.	Description	Std Pkg	Cart. Quan.	Weight per 100
SP7160	Reducing Locknut and Collar	100	50	8

DIAMOND G REDUCING LOCKNUTS

Reducing locknuts provide the best method to centralize conduit in knockout whenever the size of conduit is reduced. The multi-fluted edge provides many convenient notches for quick adjustment. Each reducing locknut is blanked from high quality steel, accurately threaded and cadmium plated.

Listed by Underwriters' Laboratories Under Re-examination Service.

Cat. No.	Size Inches	Std. Pkg.	Carton Quan.	Wt. Lbs. Std. Pkg.	Price Per 100
21-N	¾ to ½	1000	100	40	$10.05
31-N	1 to ½	500	50	33	13.90
32-N	1 to ¾	500	50	25	13.90
41-N*	1¼ to ½	250	25	34	41.65
42-N*	1¼ to ¾	250	25	29	41.65
43-N*	1¼ to 1	250	25	25	41.65

DIAMOND G KNOCKOUT SEALS

Effectively and inexpensively close un-used knockouts in all types of conduit boxes. Two identical galvanized steel stampings, embossed to centralize in knockout, are required to cover one hole.

Listed by Underwriters' Laboratories Under Re-examination Service.

Cat. No.	Size Knockout	Std. Pkg.	Carton Quan.	Wt. Lbs. Std. Pkg.	Price Per 100
10	½	1000	100	14	$3.55
20	¾	1000	100	20	4.40
30	1	500	50	14	5.65

TYPE B WITH SCREW AND NUT

This type of knockout seal is adaptable to all classes of conduit boxes, buss raceways, safety switches, motor terminal and starting boxes. All discs are embossed to centralize in knockout, thoroughly rustproofed and marked for size and catalog number.

Cat. No.	Size Knockout	Std. Pkg.	Carton Quan.	Wt. Lbs. Std. Pkg.	Price Per 100
10-B	½	1000	50	17	$4.95
20-B	¾	1000	50	23	6.20
30-B	1	1000	50	32	8.05
40-B	1¼	500	50	24	11.50
50-B	1½	500	50	31	18.30
60-B	2	500	50	44	22.45
70-B	2½	100	10	23	43.05
80-B	3	100	10	31	52.85
90-B	3½	100	10	40	62.40
100-B	4	20	10	9	74.25
110-B	4½	10	10	9	113.30
120-B*	5	10	10	12	113.30

TYPE S WITH BAR AND SCREW

Made of special steel, embossed to centralize in knockout and effectively close unused knockouts. Designed to permit installation from the inside or outside of any box without disarranging wires or equipment within.

Cat. No.	Size Inches	Std. Pkg.	Carton Quan.	Wt. Lbs. Std. Pkg.	Price Per 100
10-S	½	1000	100	30	$9.90
20-S	¾	500	50	23	12.40
30-S	1	250	25	17	16.15
40-S	1¼	100	20	9	22.95
50-S	1½	100	10	12	36.60
60-S	2	100	10	17	44.90
70-S	2½	100	10	24	53.90
80-S	3	100	10	38	66.00
90-S	3½	100	10	43	78.05
100-S	4	20	10	11	92.85
110-S	4½	10	10	11	113.30
120-S*	5	10	10	15	113.30

*Not listed by Underwriters' Laboratories.

DIAMOND G REDUCING WASHERS

Conduit reducing washers are designed to reduce the size of knockouts to fit smaller conduits. Two washers are required for each conduit where a reduction is made. Conduits need not be threaded longer than standard for normal locknut adjustment. Reaming can be avoided by selecting conduit boxes with knockouts to fit the largest conduit and using reducing washers or reducing locknuts to reduce the size of the hole for the smaller conduits.

Sizes two inches and smaller are made of 18 gauge galvanized steel, embossed to centralize in knockout. Each washer larger than 2 inches is made of special 16 gauge steel, marked for size and number, cadmium plated.

Listed by Underwriters' Laboratories under Re-examination Service.

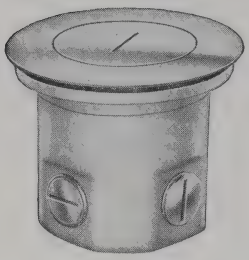
Cat. No.	Size Inches	Std. Pkg.	Carton Quan.	Wt. Lbs. Std. Pkg.	Price Per 100
*138	½ to ⅜	1000	100	10	$3.10
*238	¾ to ⅜	1000	100	10	3.10
21	¾ to ½	1000	100	16½	3.10
31	1 to ½	1000	50	29	5.85
32	1 to ¾	1000	50	24	5.85
41	1¼ to ½	500	50	22	7.60
42	1¼ to ¾	500	50	19	7.60
43	1¼ to 1	500	50	16	7.60
51	1½ to ½	500	50	33	9.25
52	1½ to ¾	500	50	30	9.25
53	1½ to 1	500	50	26	9.25
54	1½ to 1¼	500	50	20	9.25
61	2 to ½	500	50	49	12.00
62	2 to ¾	500	50	45	12.00
63	2 to 1	500	50	42	12.00
64	2 to 1¼	500	50	37	12.00
65	2 to 1½	500	50	30	12.00
71	2½ to ½	100	10	21	40.45
72	2½ to ¾	100	10	21	40.45
73	2½ to 1	100	10	20	40.45
74	2½ to 1¼	100	10	18	40.45
75	2½ to 1½	100	10	16	40.45
76	2½ to 2	100	10	14	40.45
81	3 to ½	100	10	30	49.50
82	3 to ¾	100	10	29	49.50
83	3 to 1	100	10	27	49.50
84	3 to 1¼	100	10	26	49.50
85	3 to 1½	100	10	25	49.50
86	3 to 2	100	10	23	49.50
87	3 to 2½	100	10	19	49.50
91	3½ to ½	100	10	36	61.60
92	3½ to ¾	100	10	35	61.60
93	3½ to 1	100	10	35	61.60
94	3½ to 1¼	100	10	33	61.60
95	3½ to 1½	100	10	31	61.60
96	3½ to 2	100	10	27	61.60
97	3½ to 2½	100	10	25	61.60
98	3½ to 3	100	10	20	61.60
106	4 to 2	20	10	7	69.65
107	4 to 2½	20	10	6	69.65
108	4 to 3	20	10	5	69.65
109	4 to 3½	20	10	4	69.65

*Not listed by Underwriters' Laboratories.

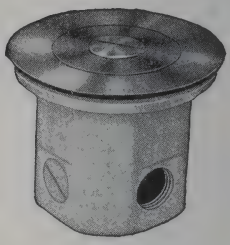
G-E FLOOR BOXES AND ACCESSORIES

STANDARD NONADJUSTABLE
WATERTIGHT TYPES

Finish — Electrogalvanized Only



Cat. No. SP8200



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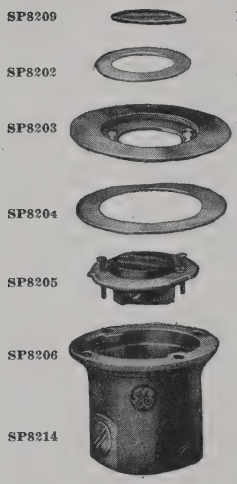
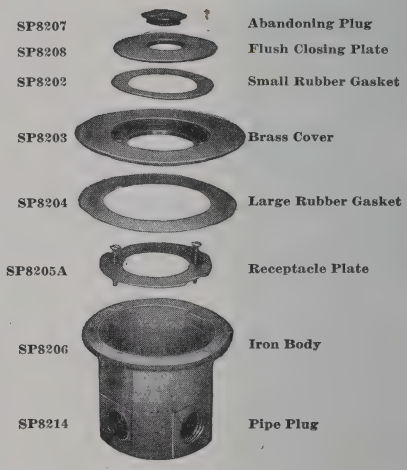


SP8200



SP8300

Catalog Number	Description	Standard Package	Carton Quantity	Weight per 100
SP8200	Plug Floor Box — Total height 4 3/16 in , height of body 3 in., diameter of body 2 3/4 in., diameter of cover 3 3/4 in. Box has 3 tapped holes in sides, 2 in bottom for 1/2-in. conduit, also 2-pole receptacles which will accommodate standard cap or polarity cap	25	1	200
SP8220	Plug Floor Box, same as SP8200 except has 3-pole receptacle and cap	10	1	225
***SP8300**	Extension Floor Box, same dimensions as SP8200, no receptacle. For telephone or signal wires	25	1	200

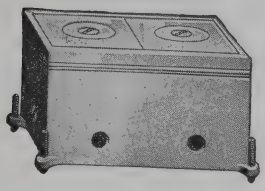
Rating of receptacle, 10-amp., 250-volt; 15-amp., 125-volt.

*Bell Nozzle not standard equipment.

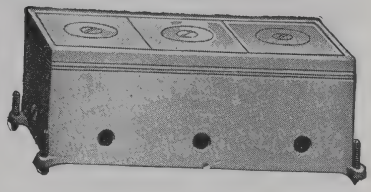
G-E RECTANGULAR GANG FLOOR BOXES

ADJUSTABLE AND WATERTIGHT
5/8-IN. VERTICAL, 10 DEG. ANGULAR ADJUSTMENT

SP1810



SP1820



SP1830

G-E Rectangular Gang Floor Boxes, adjustable and watertight, are manufactured in one, two, three, four, and five gangs, for light, power, and communications (high and low tension). Combination ½- and 2-inch bronze disks with each gang are standard equipment. Receptacles and other accessories must be ordered separately. The cover is metallically grounded to the box. Two ½-in. drilled and tapped holes straight through each gang and one at each end of the box is standard with all but one hole in each gang plugged. Boxes will be drilled (1 in. max.) and tapped to specification at factory without extra charge.

Cat. No.	Description	Dimensions, Inches			Carton	Wt. Lbs. per 100
		*Height	Width	Length		
SP1810	Single Square Floor Box	3 7/8	4 5/16	4 5/16	1	800
SP1820	2-gang Rectangular Floor Box	3 7/8	4 5/16	8 3/8	1	1250
SP1830	3-gang Rectangular Floor Box	3 7/8	4 5/16	12 7/16	1	1800

* Minimum height.

TABLE OF FLOOR BOXES AND COMPONENT PARTS

Cat. No.	Description	Standard Non-Adjustable			Shallow Adjustable		
		SP8200	**SP8220**	**SP8300**	**SP8700**	**SP8720**	**SP8750**
SP8203	Brass Cover	X	X	X	X	X	X
SP8209	Bronze Disc	X	X		X	X	
SP8201	Brass Nozzle		X				
SP8207	Brass Disc with ½-in. Hole and Brass Plug			X			X
SP8208	Closing Plate for Abandoning Plug			X			
SP8204	Large Rubber Gasket	X	X	X			
SP8202	Small Rubber Gasket	X	X	X	X	X	X
SP8205-A	Supporting Plate with Two Screws	X	X	X	X	X	X
SP8215	Two-wire Receptacle	X			X		
SP8216	Three-wire Receptacle		X			X	
SP8211	Adjusting Ring and Screws				X	X	X
SP8212	Adjusting Rubber Gasket				X	X	X
SP8222	Tin Box Protector				X	X	X
SP8223	Shallow Cored Box with Three Plugs				X	X	X
SP8214	½" Plug with screw driver slot	X	X	X	X	X	X

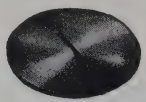
½ in. I.P.S. for all standard Floor Boxes.

G-E FLOOR BOXES AND ACCESSORIES

FLOOR BOX ACCESSORIES

SP8201 Bell Nozzle (Raised)

SP8207 and SP8208 Plate and Plug



SP8209 Flush ClosingPlate

Catalog Number	Description
SP8201	Brass Nozzle (raised)
SP8202	Small Rubber Gasket
SP8203	Brass Cover for SP8200 or SP8300
SP8204	Large Rubber Gasket
SP8205	Double-pole Receptacle with supporting plate
SP8205-A	Supporting Plate Only
SP8207	Abandoning Plug, ½ in.
SP8208	Flush Closing Plate for abandoning plate
SP8209	Flush Closing Plate (plain)
SP8211	Adjusting Ring and Screws
SP8212	Rubber Adjustment Gasket
SP8214	½ in. Plug with screw driver slot
SP8215	Double-pole Receptacle
SP8216	Triple-pole Receptacle
SP8222	Tin Box Protector
SP8223	Shallow Body for SP8700

* Bell nozzle not standard equipment; furnished only when specified at slight additional cost.

Cat. No. SP8700

SP8700*—Shallow Plug Floor Box — Diameter 4 in., height min. 3 in.—2-wire receptacle and raised nozzle shallow body — bronze finishing plate or cover—galvanized body. Tapped holes for ½-in. conduit.

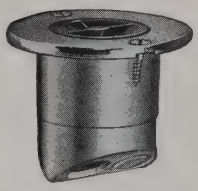
SP8720*—Shallow Plug Floor Box (3-wire)—Same as SP8700 except has 3-wire receptacle and cap.

SP8750*—Shallow Extension Floor Box—Same as SP-8700. No receptacle—for telephone or signal wires.

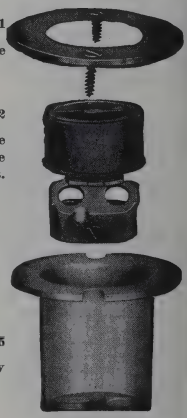
G-E GENERAL UTILITY OUTLET

GENERAL ELECTRIC SP8000

Finish — Electrogalvanized Only



Cat. No. SP8000



SP8001 Brass Plate

SP8002 Convenience Outlet, Yoke and Clamps.

SP8005 Iron Body

Cat. No.	Description	Std. Pkg.	Carton
SP8000	General Utility Outlet — Total height 2¼ in., diameter of body 1⅝ in., diameter of flange 2½ in. Convenience outlet takes standard cap or polarity cap	50	1
SP8001	Brass Plate for SP8000	25	1
SP8002	Convenience Outlet, yoke and clamps	25	1
SP8004	Fiber Jacket	25	1
SP8005	Iron Body	25	1

conduit bodies

CROUSE-HINDS CONDULETS

DISCOUNT SCHEDULE—Unless otherwise specified, Condulets carry Crouse-Hinds CD Schedule of terms and discounts.

FINISH—Unless otherwise indicated, the standard finish is cadmium-galvanized.

MATERIAL—Unless otherwise indicated, all Condulets are made of Feraloy, a special Crouse-Hinds alloy.

Crouse-Hinds "complete line" is more than just a range of sizes — **there is a Condulet for every need and purpose.**

Feraloy is a special alloy having the desirable characteristics of both cast steel and gray iron. It is the result of many years of study and development. Feraloy possesses high tensile strength and unusual resistance to corrosion.

Condulets will be found to stand up under the trying conditions of installation and subsequent use.

(Condulets are made only by Crouse-Hinds)

OBROUND SERIES CONDULETS

Obround Condulets of the same size take the same covers and wiring devices.

Threaded for Rigid Conduit (Thick Wall)

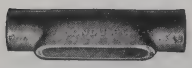
Type A

Cat. No.	List, Each	Size
A17	$0.60	½
A27	.70	¾
A37	1.00	1
A47	1.60	1¼
A57	2.08	1½
A67	4.28	2
A77	8.40	2½
A87	10.00	3
A97	14.00	3½
A107	18.00	4

Type B*

Cat. No.	List, Each
B17	$0.60
B27	.70
B37	1.00
B47	2.50
B57	3.00
B67	5.20
B77	16.30
B87	18.00
B97	30.50
B107	34.00

Type C



Cat. No.	List, Each	Size
C17	$0.77	½
C27	.86	¾
C37	1.30	1
C47	2.10	1¼
C57	2.80	1½
C67	4.80	2
C77	10.00	2½
C87	13.00	3
C97	21.00	3½
C107	24.00	4

Type E

Cat. No.	List, Each
E17	$0.60
E27	.70
E37	1.00
E47	1.60
E57	2.08
E67	4.28
E77	8.40
E87	10.00
E97	14.00
E107	18.00

*One-piece body, ½ to 1 inch; two-piece body, 1¼ to 4 inch.

OBROUND SERIES CONDULETS

Threaded for Rigid Conduit (Thick Wall)

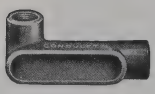
Type LB

Cat. No.	List, Each	Size
LB17	$0.77	½
LB27	.86	¾
LB37	1.30	1
LB47	2.10	1¼
LB57	2.80	1½
LB67	4.80	2
LB777	10.00	2½
LB87	13.00	3
LB97	21.00	3½
LB107	24.00	4

Type LR

Cat. No.	List, Each
LR17	$0.77
LR27	.86
LR37	1.30
LR47	2.10
LR57	2.80
LR67	4.80
LR777	10.00
LR87	13.00
LR97	21.00
LR107	24.00

Type LL



Cat. No.	List, Each	Size
LL17	$0.77	½
LL27	.86	¾
LL37	1.30	1
LL47	2.10	1¼
LL57	2.80	1½
LL67	4.80	2
LL777	10.00	2½
LL87	13.00	3
LL97	21.00	3½
LL107	24.00	4

Type LF

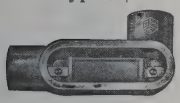
Cat. No.	List, Each
LF17	$0.80
LF27	.90
LF37	1.30
LF47	2.10
LF57	2.80
LF67	4.80
LF777	10.00
LF87	13.00
LF97	21.00
LF107	24.00

CROUSE-HINDS CONDULETS

OBROUND SERIES CONDULETS

Threaded for Rigid Conduit (Thick Wall)

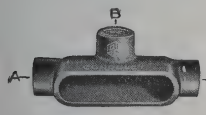
Type L†



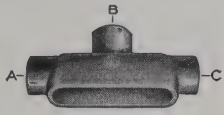
Type TA

Cat. No.	List, Each	Size	Cat. No.	List, Each
L17	$0.80	½	TA17	$1.40
L27	.90	¾	TA27	1.50
L37	1.30	1	TA37	2.00
L47	2.10	1¼	TA47	3.10
L57	2.80	1½	TA57	4.60
L67	4.80	2	TA67	7.90

Type T‡

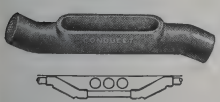


Type TB‡



		A-B-C		
T17	$0.94	½–½–½	TB17	$0.96
T127	1.12	½–¾–½	----------	----------
T217	1.14	¾–½–¾	----------	----------
T27	1.10	¾–¾–¾	TB27	1.14
T237	1.30	¾–1–¾	TB237	1.30
T317	1.60	1–½–1	TB317	1.60
T327	1.60	1–¾–1	TB327	1.60
T37	1.60	1–1–1	TB37	1.60
T417	2.44	1¼–½–1¼	----------	----------
T427	2.44	1¼–¾–1¼	----------	----------
T437	2.44	1¼–1–1¼	----------	----------
T47	2.44	1¼–1¼–1¼	TB47	2.44
T517	3.38	1½–½–1½	----------	----------
T527	3.38	1½–¾–1½	----------	----------
T537	3.38	1½–1–1½	----------	----------
T547	3.38	1½–1¼–1½	----------	----------
T57	3.38	1½–1½–1½	TB57	3.38
T647	5.10	2–1¼–2	----------	----------
T657	5.10	2–1½–2	----------	----------
T67	5.10	2–2–2	TB67	5.10
T77	10.00	2½–2½–2½	TB77	10.00
T87	15.00	3–3–3	TB87	15.00
T97	22.00	3½–3½–3½	TB97	22.00
T107	26.00	4–4–4	TB107	26.00

Type COV



Type CUB

Cat. No.	List, Each	Size Pipe Crossed	Size	Cat. No.	List, Each	Size Pipe Crossed
----------	----------	----------	½	CUB127	$1.50	¾
COV147	$1.00	1¼	½	CUB147	1.70	1¼
COV247	1.30	1¼	¾	CUB247	1.90	1¼
COV347	1.50	1¼	1	CUB347	2.80	1¼
COV457	2.50	1½	1¼	CUB457	3.80	1½
COV567	3.20	2	1½	CUB567	4.80	2
COV677	6.50	2½	2	CUB677	9.60	2½

†Type L Condulets have two openings, with one blank sheet steel cover. Can be used for either an LL or LR.

‡The size of the cover or wiring device is the same as size of hubs at ends of cover opening.

CROUSE-HINDS CONDULETS

OBROUND SERIES CONDULETS

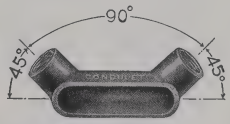
Threaded for Rigid Conduit (Thick Wall)

Type F

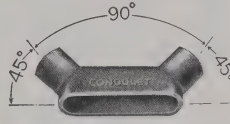
Type CO

Cat. No.	List, Each	Size	Cat. No.	List, Each
F17	$1.40	½	CO17	$1.00
F27	2.00	¾	CO27	1.30
F37	2.90	1	CO37	1.50
F47	5.60	1¼	CO47	2.50
F57	7.00	1½	CO57	3.20
F67	10.00	2	CO67	6.50
F77	19.00	2½	CO777	10.40
F87	21.00	3	CO87	15.80
F97	39.00	3½	CO97	25.20
F107	50.00	4	CO107	27.60
F0117	90.00	4½	----------	----------
F0127	95.00	5	----------	----------
F0147	100.00	6	----------	----------

Type U

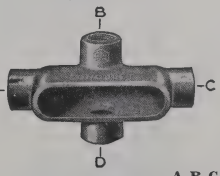


Type UB

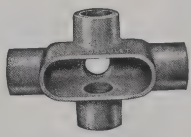


U17	$0.96	½	UB17	$0.96
U27	1.08	¾	UB27	1.08
U37	1.56	1	UB37	1.56
U47	2.52	1¼	UB47	2.52
U57	3.36	1½	UB57	3.36
U67	6.00	2	UB67	6.00
U777	12.00	2½	UB777	12.00
U87	15.60	3	UB87	15.60
U97	25.20	3½	UB97	25.20
----------	----------	4	UB107	28.80

Type X‡



Type XA



		A-B-C-D		
X17	$1.20	½–½–½–½	XA17	$2.00
X217	1.54	¾–½–¾–½	----------	----------
X27	1.54	¾–¾–¾–¾	XA27	2.30
X317	2.10	1–½–1–½	----------	----------
X327	2.10	1–¾–1–¾	----------	----------
X37	2.10	1–1–1–1	XA37	2.90
X417	2.80	1¼–½–1¼–½		
X427	2.80	1¼–¾–1¼–¾		
X47	2.80	1¼-1¼-1¼-1¼		
X527	3.56	1½–¾–1½–¾		
X57	3.56	1½-1½-1½-1½		
X67	7.00	2–2–2–2		
X77	12.00	2½-2½-2½-2½		
X87	20.00	3–3–3–3		

‡The size of the cover or wiring device is the same as size of hubs at ends of cover opening.

CROUSE-HINDS CONDULETS

OBROUND SERIES CONDULETS

Threadless

For EMT (Thin Wall)

Illustrations shown above listings are for Rigid Conduit (Thick Wall).

Type A

Type B*

Thick Wall Cat. No.	Thin Wall Cat. No.	List, Each	Size In.	Thick Wall Cat. No.	Thin Wall Cat. No.	List, Each
A197	A17-MT	$0.70	½	B197	B17-MT	$0.70
A297	A27-MT	.90	¾	B297	B27-MT	.90
A397	A37-MT	1.20	1	B397	B37-MT	1.20
A497	A47-MT	2.20	1¼	B497	B47-MT	2.96
A597	A57-MT	3.00	1½	B597	B57-MT	3.68
A697	A67-MT	5.50	2	B697	B67-MT	6.40
A797	.....	11.00	2½	B797	.....	18.30
A897	.....	13.00	3	B897	.....	20.60
A997	.....	20.00	3½	B997	.....	34.00
A1097	.....	24.00	4	B1097	.....	38.50

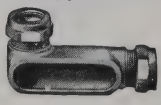
Type C

Type E

C197	C17-MT	$1.00	½	E197	E17-MT	$0.70
C297	C27-MT	1.20	¾	E297	E27-MT	.90
C397	C37-MT	1.80	1	E397	E37-MT	1.20
C497	C47-MT	3.00	1¼	E497	E47-MT	2.20
C597	C57-MT	4.20	1½	E597	E57-MT	3.00
C697	C67-MT	7.00	2	E697	E67-MT	5.50
C797	.....	14.00	2½	E797	.....	11.00
C897	.....	18.00	3	E897	.....	13.00
C997	.....	28.00	3½	E997	.....	20.00
C1097	.....	33.00	4	E1097	.....	24.00

Type LB

Type LL



LB197	LB17-MT	$1.00	½	LL197	LL17-MT	$1.00
LB297	LB27-MT	1.20	¾	LL297	LL27-MT	1.20
LB397	LB37-MT	1.80	1	LL397	LL37-MT	1.80
LB497	LB47-MT	3.00	1¼	LL497	LL47-MT	3.00
LB597	LB57-MT	4.20	1½	LL597	LL57-MT	4.20
LB697	LB67-MT	7.00	2	LL697	LL67-MT	7.00
LB797	.....	14.00	2½	LL797	.....	14.00
LB897	.....	18.00	3	LL897	.....	18.00
LB997	.....	28.00	3½	LL997	.....	28.00
LB1097	.....	33.00	4	LL1097	.....	33.00

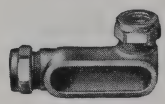
*One-piece body, ½ to 1 inch; two-piece body, 1¼ to 4 inch.

CROUSE-HINDS CONDULETS

OBROUND SERIES CONDULETS

Threadless

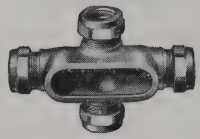
Type LR



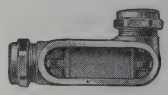
Type T

Thick Wall Cat. No.	Thin Wall Cat. No.	List, Each	Size In.	Thick Wall Cat. No.	Thin Wall Cat. No.	List, Each
LR197	LR17-MT	$1.00	½	T197	T17-MT	$1.30
.....	.....	.....	¾†	.....	T127-MT	1.52
LR297	LR27-MT	1.20	¾	T297	T27-MT	1.60
LR397	LR37-MT	1.80	1	T397	T37-MT	2.20
LR497	LR47-MT	3.00	1¼	T497	T47-MT	3.80
LR597	LR57-MT	4.20	1½	T597	T57-MT	5.40
LR697	LR67-MT	7.00	2	T697	T67-MT	8.60
LR797	.....	14.00	2½	T797	.....	16.00
LR897	.....	18.00	3	T897	.....	22.00
LR997	.....	28.00	3½	T997	.....	32.00
LR1097	.....	33.00	4	T10097	.....	38.00

Type X



Type L††



X197	X17-MT	$1.60	½	L197	L17-MT	$1.00
X297	X27-MT	2.20	¾	L297	L27-MT	1.20
X397	X37-MT	3.00	1	L397	L37-MT	1.80
X497	X47-MT	4.60	1¼	L497	L47-MT	3.00
X597	X57-MT	6.20	1½	L597	L57-MT	4.20
X697	X67-MT	11.00	2	L697	L67-MT	7.00

GASKETS

Solid Type

For use with blank sheet steel and cast Feraloy covers.

Size In.	Catalog Numbers Rubber	Cork	Vellumoid	List, Each
½	Gask 571	Gask 671	Gask 771	$0.20
¾	Gask 572	Gask 672	Gask 772	.20
1	Gask 573	Gask 673	Gask 773	.30
1¼	Gask 574	Gask 674	Gask 774	.40
1½	Gask 575	Gask 675	Gask 775	.40
2	Gask 576	Gask 676	Gask 776	.50
2½ or 3	Gask 578	Gask 678	Gask 778	.80
3½ or 4	Gask 579	Gask 679	Gask 779	1.00

Open Type

For use with blank composition covers, wire-hole covers, and wiring devices.

½	Gask 471	Gask 371	$0.20
¾	Gask 472	Gask 372	.20
1	Gask 473	Gask 373	.30
1¼	Gask 474	Gask 374	.40
1½	Gask 475	Gask 375	.40
2	Gask 476	Gask 376	.50
2½ or 3	Gask 478	Gask 378	.80
3½ or 4	Gask 479	Gask 379	1.00

†Size of hubs for T127-MT: ½, ¾, ½.

††Type L Condulets have two openings, with one blank sheet steel cover. Can be used for either an LL or an LR.

CROUSE-HINDS CONDULETS

COVERS FOR OBROUND SERIES CONDULETS

Blank Covers

Special drilling at additional charge: Up to 1" diam., **$0.30** per hole; 1" and larger, **$0.50** per hole.

Size	Sheet Steel Cat. No.	Sheet Steel List, Each	Cast Feraloy Cat. No.	Cast Feraloy List, Each	Composition Cat. No.	Composition List, Each
½	170	$0.11	170f	$0.32	1770	$0.20
¾	270	.15	270f	.44	2770	.30
1	370	.34	370f	.70	3770	.50
1¼	470	.48	470f	1.00	4770	1.00
1½	570	.48	570f	1.00	5770	1.00
2	670	.84	670f	1.40	6770	1.20
2½ or 3	870	1.12	870f	1.50	8770	3.20
3½ or 4	970	1.20	970f	1.60	9770	5.00
4½, 5 or 6	.....	.....	.....	.....	14770	8.00

Knockout Covers*

Composition

1, 2 or 3-Wire

Size	Dia. Knockouts	Cat. No.	List, Each
½	1—7/16 2—7/8	1773	$0.20
¾	3—7/8	2773	.30
1	3—½	3773	.50

2, 3, 4 or 5-Wire

1¼	5—9/16	4775	$0.72
1½	5—11/16	5775	.72
2	2—11/16 3—7/8	6775	1.20

Wire Hole Covers*

Porcelain and Composition

1-Wire†

1-Wire Special†

Size	Dia. Holes	Porcelain Cat. No.	Porcelain List, Each	Composition Cat. No.	Composition List, Each
½	5/8	.....	.....	1771S	$0.20
¾	25/32	.....	.....	2771S	.30
1	1	.....	.....	3771S	.50
1¼	1⅛	.....	.....	4771S	1.00

1-Wire Standard†

1½	1⅜	571	$0.72	5771	$1.00
2	1¾	.....	.....	6771	1.20
2½ or 3	2 5/16	871	1.60	8771	3.20
3½ or 4	3¼	971	1.80	9771	5.00
4½, 5 or 6	3¼	.....	.....	14771	8.00

*For special drilling use blank composition covers.

†Use knockout covers for sizes not shown.

CROUSE-HINDS CONDULETS

COVERS FOR OBROUND SERIES CONDULETS

Wire Hole Covers*

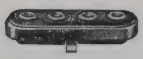
Porcelain and Composition

2-Wire†

Size	Dia. Holes	Porcelain Cat. No.	Porcelain List, Each	Composition Cat. No.	Composition List, Each
2½ or 3	1 7/16	872	$1.60	8772	$3.20
3½ or 4	1 15/16	972	1.80	9772	5.00
4½, 5 or 6	2¼	.....	.....	14772	8.00

3-Wire†

2½ or 3	1 7/16	873	$1.60	8773	$3.20
3½ or 4	1 15/16	973	1.80	9773	5.00
4½, 5 or 6	2¼	.....	.....	14773	8.00

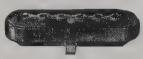


4-Wire†

½	5/16	.....	.....	1774	$0.20
¾	7/16	.....	.....	2774	.30
1	13/32	.....	.....	3774	.50
2½ or 3	1 7/16	874	$1.60	8774	3.20
3½ or 4	1 15/16	974	1.80	9774	5.00
4½, 5 or 6	1⅞	.....	.....	14774	8.00

5-Wire†

¾	5/16	.....	.....	2775	$0.30
1	13/32	.....	.....	3775	.50
2½ or 3	1 7/16	875	$1.60	8775	3.20
3½ or 4	1½	.....	.....	9775	5.00
4½, 5 or 6	1 9/16	.....	.....	14775	8.00



6-Wire

¾	5/16	.....	.....	2776	$0.30
1	3/8	.....	.....	3776	.50
1¼	½	476	$0.72	4776	1.00
1½	17/32	576	.72	5776	1.00
2	5/8	.....	.....	6776	1.20
2½ or 3	7/8	.....	.....	8776	3.20
3½ or 4	1 1/16	.....	.....	9776	5.00
4½, 5 or 6	1 5/16	.....	.....	14776	8.00

*For special drilling use blank composition covers.

†Use knockout covers for sizes not shown.

Sheet Steel Covers with Cord Clamps

Provided with cord clamp and bushed hole which safeguards the drop cord. Takes cord ¼ to ⅜-inch diameter.

Size In.	Cat. No.	List Each
½	1972	$0.60
¾	2972	.70

CROUSE-HINDS CONDULETS

WIRING DEVICES FOR OBROUND SERIES CONDULETS

2-Pole Attachment Plug Receptacles

Composition

15 Amp., 125V. or 10 Amp., 250V.
Single, with Double T Slots

Size In.	Composition Cat. No.	Composition List, Each	Porcelain Cat. No.	Porcelain List, Each
½	1715	$1.20	1705	$1.20
¾	2715	1.40	2705	1.40
1	3715	1.80	3705	1.80

Composition

Duplex, with Parallel Slots

½	1748	$1.20	.....	.....
¾	2748	1.40	.....	.....
1	3748	1.80	.....	.....

Composition

Duplex, with Double T Slots

½	1725	$1.80	.....	.....
¾	2725	2.00	.....	.....
1	3725	2.50	.....	.....

2-Pole Polarity Plug Receptacles

Composition

15 Amp., 125V. or 10 Amp., 250V.

½	*1728	$1.20	*1708	$1.20
¾	*2728	1.40	*2708	1.40
1	*3728	1.80	*3708	1.80

20 Ampere, 250 Volts

½	1738	$1.30	1718	$1.40
¾	2738	1.50	2718	1.60
1	3738	1.90	3718	2.00

Attachment Plug Receptacles

Porcelain 3-Wire

3-Wire, 3-Pole
15 Amp., 125V. or 10 Amp., 250V.

½	.....	.....	1709	$1.50
¾	.....	.....	2709	1.60

20 Amperes, 250 Volts

½	.....	.....	1719	$1.80
¾	.....	.....	2719	2.00

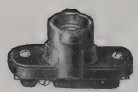
2-Wire, 3-Pole
Extra Pole Grounded
15 Amp., 125V. or 10 Amp., 250V.

½	.....	.....	1729	$1.70
¾	.....	.....	2729	1.80

20 Amperes, 250 Volts

½	.....	.....	1739	$2.00
¾	.....	.....	2739	2.20

Lamp Receptacles



Composition, With Groove

660 Watts, 600 Volts
With Shade Holder Groove

½	1726	$0.90	1706	$0.90
¾	2726	1.00	2706	1.00
1	3726	1.40	3706	1.40

Cord Rosettes

Composition

660 Watts, 250 Volts

½	1720	$1.90	1700	$1.20
¾	2720	2.10	2700	1.40
1	3720	2.50	3799	1.80

*Takes Hubbell No. 5567 polarized plug.

Prices for receptacles listed above do not include attachment plugs.

If specified on the order, lamp receptacle with lamp grip will be furnished at an advance in price of **20** cents.

CROUSE-HINDS CONDULETS

CAST ALUMINUM COVERS

Take P&S-Despard, Bryant, Hubbell, Arrow-H&H and GE Interchangeable wiring devices. Mounting bridge furnished.

Without Guard

Size In.	Cat. No.	List, Each
½	1755	$0.60
¾	2755	.80

With Guard
For Switches Only

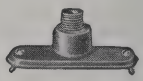
½	1785	$0.70

VAPORTIGHT SWITCH COVERS

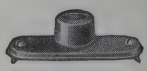
With gasket and mounting strap for switches. Take P&S-Despard, Bryant, Hubbell, Arrow-H&H, and GE Interchangeable switches.

½	1766	$2.80
¾	2766	3.00
1	3766	3.20

CAST FERALOY COVERS WITH NIPPLES



Male



Female

Size Nipple	Size Cover	Male Cat. No.	Male List, Each	Female Cat. No.	Female List, Each
⅜	½	1723	$0.50	1733	$0.50
	¾	2723	.60	2733	.60
	1	3723	.80	3733	.80
½	½	1724	.60	1734	.60
	¾	2724	.70	2734	.70
	1	3724	.90	3734	.90
	1¼	4724	1.12	4734	1.12
	1½	5724	1.12	5734	1.12

Adapters for Obround Series Conduits

For Adapting Conduits

Size In.	Cat. No.	List, Each
1	731	$0.70
1¼	741	1.00
1½	751	1.40
2	761	1.80

TYPE LBD CONDULETS

For use when it is necessary to make a 90° bend in the conduit system. Arrangement of cover opening allows conductors to be pulled straight through either hub. Furnished with blank cast Feraloy cover.

Size In.	Cat. No.	List, Each
½	LBD1100	$1.30
¾	LBD2200	1.60
1	LBD3300	2.40
1¼	LBD4400	6.50
1½	LBD5500	11.50
2	LBD6600	12.50
2½	LBD7700	23.50
3	LBD8800	28.50
3½	LBD9900	46.50
4	LBD10900	52.00
4½	LBD011	70.00
5	LBD012	80.00
6	LBD014	150.00

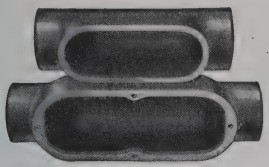
Gaskets for LBD Condulets

Size In.	Cat. No. Gask-	List, Each	Size In.	Cat. No. Gask-	List, Each
½	680R	$0.20	2½ or 3	685R	$3.00
¾	681R	.30	3½ or 4	686R	3.50
1	682R	.40	4½ or 5	687R	7.00
1¼	683R	.60	6	688R	10.00
1½ or 2	684R	1.20	.....	.....	.....

CROUSE-HINDS CONDULETS

FORM 8 SERIES CONDULETS

Threaded for Thick Wall Conduit



Relative Sizes of 2-Inch Type C, Obround and Form 8 Condulets

Form 8 series Condulets are for use where sizes of conductors, number of splices or tapping and pulling requirements necessitate more room than provided in the Obround series.

Type C

Size In.	Cat. No.	List Each
½	Use	
¾	Obround	
1	Condulets	
1¼	C48	$2.10
1½	C58	2.80
2	C68	4.80
2½	C78	10.00
3	C88	13.00
3½	C98	21.00
4	C108	24.00

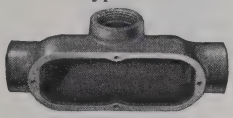
Type LR

Size In.	Cat. No.	List Each
½	Use	
¾	Obround	
1	Condulets	
1¼	LR48	$2.10
1½	LR58	2.80
2	LR68	4.80
2½	LR78	10.00
3	LR888	13.00
3½	LR98	21.00
4	LR108	24.00

Type E

½	Use	
¾	Obround	
1	Condulets	
1¼	E48	$1.60
1½	E58	2.08
2	E68	4.28
2½	E78	8.40
3	E88	10.00
3½	E98	14.00
4	E108	18.00

Type T



½	Use	
¾	Obround	
1	Condulets	
1¼	T48	$2.44
1½	T58	3.38
2	T68	5.10
2½	T78	10.00
3	T88	15.00
3½	T98	22.00
4	T108	26.00

Type LB

½	Use	
¾	Obround	
1	Condulets	
1¼	LB48	$2.10
1½	LB58	2.80
2	LB68	4.80
2½	LB78	10.00
3	LB888	13.00
3½	LB98	21.00
4	LB108	24.00

Type TB

½	Use	
¾	Obround	
1	Condulets	
1¼	TB48	$2.44
1½	TB58	3.38
2	TB68	5.10
2½	TB78	10.00
3	TB88	15.00
3½	TB98	22.00
4	TB108	26.00

CROUSE-HINDS CONDULETS

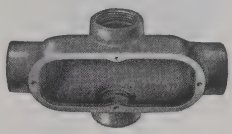
FORM 8 SERIES CONDULETS

Threaded for Thick Wall Conduit

Type LL

Size In.	Cat. No.	List Each
½	Use	
¾	Obround	
1	Condulets	
1¼	LL48	$2.10
1½	LL58	2.80
2	LL68	4.80
2½	LL78	10.00
3	LL888	13.00
3½	LL98	21.00
4	LL108	24.00

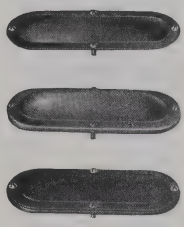
Type X



Size In.	Cat. No.	List Each
½	Use	
¾	Obround	
1	Condulets	
1¼	X48	$2.80
1½	X58	3.56
2	X68	7.00
2½	X78	12.00
3	X88	20.00
3½	X98	26.00
4	X108	32.00

COVERS FOR FORM 8 SERIES CONDULETS

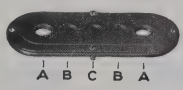
Blank



Size In.	Cat. No.	List Each
	Sheet Steel	
1¼ or 1½	580	$0.64
2	680	1.12
2½ or 3	880	1.50
3½ or 4	980	1.60
	Cast Feraloy	
1¼ or 1½	580F	$1.00
2	680F	1.40
2½ or 3	880F	1.50
3½ or 4	980F	1.60
	Bakelite	
1¼ or 1½	5870	$2.00
2	6870	2.40
2½ or 3	8870	3.20
3½ or 4	9870	5.00

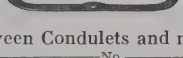
If specified on order, blank bakelite cover will be furnished with special drilling at an advance in list price as follows: Up to 1 inch diameter, **30** cents list per hole; 1 inch and over, **50** cents list per hole.

2, 3, 4, or 5-Wire
Bakelite



Size In.	Diameter, Inches — Holes A	Knockouts B	Knockouts C	Cat. No.	List Each
1¼ or 1½	13/16	5/8	13/16	5875	$2.00
2	1	1	1	6875	2.40
2½ or 3	1 7/16	1 3/16	1 7/16	8875	3.20
3½ or 4	1 13/16	1 9/16	1 13/16	9875	5.00

GASKETS FOR FORM 8 SERIES



For use between Condulets and metal covers.

Size In.	No. — Rubber	Cork	Vellumoid	List Each
1¼ or 1½	Gask 805R	Gask 805C	Gask 805V	$0.40
2	Gask 806R	Gask 806C	Gask 806V	.50
2½ or 3	Gask 808R	Gask 808C	Gask 808V	.80
3½ or 4	Gask 809R	Gask 809C	Gask 809V	1.00

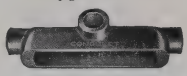
CROUSE-HINDS CONDULETS

MOGUL SERIES CONDULETS

Type BC

Size In.	Cat. No.	List Each
1	BC3	$3.80
1¼	BC4	4.30
1½	BC5	8.30
2	BC6	10.00
2½	BC7	15.20
3	BC8	20.40
3½	BC9	32.70
4	BC10	40.00

Type BT

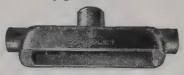


Size In.	Cat. No.	List Each
1	BT3	$4.50
1¼	BT4	5.00
1½	BT5	9.30
2	BT6	11.20
2½	BT7	15.60
3	BT8	22.40
3½	BT9	33.70
4	BT10	42.00

Type BEE

1	BEE3	$3.40
1¼	BEE4	3.80
1½	BEE5	7.40
2	BEE6	9.00
2½	BEE7	13.60
3	BEE8	17.40
3½	BEE9	28.00
4	BEE10	34.00

Type BTB



1	BTB3	$4.50
1¼	BTB4	5.00
1½	BTB5	9.30
2	BTB6	11.20
2½	BTB7	15.60
3	BTB8	22.40
3½	BTB9	33.70
4	BTB10	42.00

Type BLB

1	BLB3	$3.80
1¼	BLB4	4.30
1½	BLB5	8.30
2	BLB6	10.00
2½	BLB7	15.20
3	BLB8	20.40
3½	BLB9	32.70
4	BLB10	40.00

Type BX

1	BX3	$5.00
1¼	BX4	5.50
1½	BX5	10.30
2	BX6	12.50
2½	BX7	19.00
3	BX8	25.00
3½	BX9	42.00
4	BX10	52.00

Type BUB

1½	BUB5	$8.30
2	BUB6	10.00
2½	BUB7	15.20
3	BUB8	20.40
3½	BUB9	32.70
4	BUB10	40.00
1	BUB3	$3.80
1¼	BUB4	4.30

COVERS FOR MOGUL SERIES CONDULETS

Blank

Bakelite

Cast Feraloy

Size In.	Bakelite No.	Bakelite Each	Cast Feraloy Without Gasket No.	Cast Feraloy Without Gasket Each	Cast Feraloy With Gasket No.	Cast Feraloy With Gasket Each
1 or 1¼	CF534	$3.20	BG47	$2.20	BG48	$3.00
1½ or 2	CF536	6.00	BG67	3.50	BG68	4.80
2½ or 3	CF538	8.00	BG87	7.50	BG88	12.50
3½ or 4	CF539	12.00	BG97	13.50	BG98	17.50

GASKETS FOR MOGUL SERIES CONDULETS

For use between Condulets and covers; except No. BG48, BG68, BG88 and BG98 covers, which have round gaskets.

Size In.	Cat. No.	List Each
1 or 1¼	Gask 271	$0.50
1½ or 2	Gask 272	.70
2½ or 3	Gask 273	1.50
3½ or 4	Gask 274	2.00

CROUSE-HINDS CONDULETS

FS AND FD SERIES CONDULETS

Take covers and accessories, or plug receptacle housings.

Overall dimensions, exclusive of hubs: FS—Length, $4\frac{5}{16}$"; width, $2\frac{3}{4}$"; depth, $1\frac{7}{8}$". FD—Length, $4\frac{5}{16}$"; width, $2\frac{3}{4}$"; depth, $2\frac{11}{16}$".

FS Condulets can be furnished with flat face ($4\frac{1}{2}$x$2\frac{13}{16}$x$2\frac{1}{16}$ inches) to take standard wall plates at the same list prices; add suffix S24 to catalog number.

FS Series take devices $1\frac{5}{8}$" deep or less.

FD Series take devices $2\frac{3}{8}$" deep or less.

Threaded for Rigid Conduit (Thick Wall)

Type FS or FD

Cat. No.	List Each	Size
FS1	$1.30	½
FS2	1.50	¾
FS3	1.70	1
FD1	1.50	½
FD2	1.70	¾
FD3	2.00	1

Type FSA or FDA

Cat. No.	List Each
FSA1	$1.30
FSA2	1.50
FSA3	1.70
FDA1	1.50
FDA2	1.70
FDA3	2.00

Type FSC or FDC

FSC1	$1.50	½
FSC2	1.80	¾
FSC3	2.20	1
FDC1	1.70	½
FDC2	2.10	¾
FDC3	2.50	1

Type FSL or FDL

FSL1	$1.50
FSL2	1.80
FSL3	2.20
FDL1	1.70
FDL2	2.10
FDL3	2.50

Type FSR or FDR

FSR1	$1.50	½
FSR2	1.80	¾
FSR3	2.20	1
FDR1	1.70	½
FDR2	2.10	¾
FDR3	2.50	1

Type FSS or FDD

FSS1	$1.50
FSS2	1.80
FSS3	2.20
FDD1	1.70
FDD2	2.10
FDD3	2.50

Type FSCA or FDCA

FSCA1	$2.00	½
FSCA2	2.50	¾*
FSCA3	2.90	1*
FDCA1	2.20	½
FDCA2	2.70	¾*
FDCA3	3.10	1*

Type FSCC or FDCC

FSCC1	$2.00
FSCC21	2.50
FSCC31	2.90
FDCC1	2.20
FDCC21	2.70
FDCC31	3.10

*The hubs at the right in the illustration are ½ inch on types FSCC and FDCC.

CROUSE-HINDS CONDULETS

FS AND FD SERIES CONDULETS

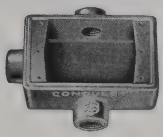
FS Series take devices 1⅝" deep or less.

FD Series take devices 2⅜" deep or less.

Threaded for Rigid Conduit (Thick Wall)

Type FSCT or FDCT

Type FST or FDT

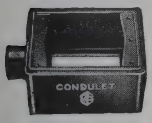


Cat. No.	List Each	Size	Cat. No.	List Each
FSCT1	$2.00	½	FST1	$2.00
FSCT2	2.50	¾	FST2	2.50
FSCT3	2.90	1	FST3	2.90
FDCT1	2.20	½	FDT1	2.20
FDCT2	2.70	¾	FDT2	2.70
FDCT3	3.10	1	FDT3	3.10

Type FSX or FDX

½	FSX1	$2.40
¾	FSX2	3.00
1	FSX3	3.40
½	FDX1	2.60
¾	FDX2	3.20
1	FDX3	3.60

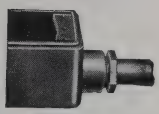
Type FS Double Face



Type FSC Double Face

FS152	$2.30	½	FSC152	$2.50
FS252	2.50	¾	FSC252	2.90

Threadless



For EMT (Thin Wall)

Illustrations shown above listings are for Rigid Conduit (Thick Wall).

Type FS or FD

Type FSC or FDC

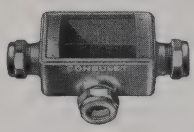
Thick Wall Cat. No.	Thin Wall Cat. No.	List Each	Size	Thick Wall Cat. No.	Thin Wall Cat. No.	List Each
FS191	FS1-MT	$1.40	½	FSC191	FSC1-MT	$1.70
FS291	FS2-MT	1.70	¾	FSC291	FSC2-MT	2.20
FS391	FS3-MT	2.00	1	FSC391	FSC3-MT	2.80
FD191	FD1-MT	1.60	½	FDC191	FDC1-MT	1.90
FD291	FD2-MT	1.90	¾	FDC291	FDC2-MT	2.50
FD391	FD3-MT	2.30	1	FDC391	FDC3-MT	3.10

CROUSE-HINDS CONDULETS

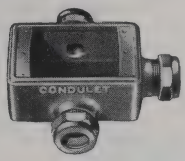
FS AND FD SERIES CONDULETS

Threadless

Type FSCT or FDCT

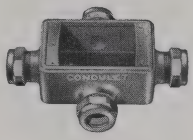


Type FST or FDT



Thick Wall Cat. No.	Thin Wall Cat. No.	List Each	Size	Thick Wall Cat. No.	Thin Wall Cat. No.	List Each
FSCT191	FSCT1-MT	$2.30	½	FST191	FST1-MT	$2.30
FSCT291	FSCT2-MT	3.10	¾	FST291	FST2-MT	3.10
FSCT391	FSCT3-MT	3.80	1	FST391	FST3-MT	3.80
FDCT191	FDCT1-MT	2.50	½	FDT191	FDT1-MT	2.50
FDCT291	FDCT2-MT	3.30	¾	FDT291	FDT2-MT	3.30
FDCT391	FDCT3-MT	4.00	1	FDT391	FDT3-MT	4.00

Type FSX or FDX



½	FSX191	FSX1-MT	$2.80
¾	FSX291	FSX2-MT	3.80
1	FSX391	FSX3-MT	4.60
½	FDX191	FDX1-MT	3.00
¾	FDX291	FDX2-MT	4.00
1	FDX391	FDX3-MT	4.80

TYPE ExF EXTENSIONS

For FS and FD Series Condulets, Single-Gang

ExF11

ExF41

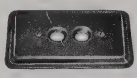
Depth of Extension	Cat. No.	List Each
1	ExF11	$1.00
2½	ExF21	3.50
4⅝	ExF41	4.00

CONDULET COVERS

For Condulets of the FS and FD Series, Single-Gang, and FS Series 2-Gang Tandem and Type ExF Extensions

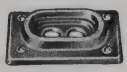
For Double Push Button, Double Push Button Momentary Contact, and Double Push Lock Switches

Sheet Steel



Cat. No.	List Each	Style
DS8	$0.30	Surface
DSS8	.30	Flush

Cast Feraloy—Guarded



DS8g	$0.70	Surface
DS8g	.70	Flush

For G-E, Arrow-H&H, Bryant, and Hubbell Tumbler Flush Switches with Square Handles

Sheet Steel

DS32	$0.30	Surface
DSS32	.30	Flush

Cast Feraloy—Guarded

DS32g	$0.70	Surface
DS32g	.70	Flush

CROUSE-HINDS CONDULETS

CONDULET COVERS

For Condulets of the FS and FD Series, Single-Gang and FS Series 2-Gang Tandem; and Type ExF Extensions

For Round Flush Receptacles

Sheet Steel——Spring Hinge Lid
Diameter Opening, 1⅝ Inches

Cat. No.	List Each	Style
DS10	$1.20	Surface
DSS10	1.20	Flush

Cast Feraloy—With Spring Door with Gaskets
Diameter Opening, 1⅞ Inches

DS10g	$2.50	Surface
DS10g	2.50	Flush

Sheet Steel
Diameter Opening, 1 13/32 Inches

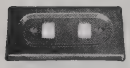
DS21	$0.30	Surface
DSS21	.30	Flush

For Standard Duplex Flush Receptacles

Sheet Steel

DS23	$0.30	Surface
DSS23	.30	Flush

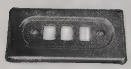
For Dugle Tumbler Switches



Sheet Steel

DS63	$0.30	Surface
DSS63	.30	Flush

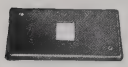
For Trigle Tumbler Switches



Sheet Steel

DS65	$0.30	Surface
DSS65	.30	Flush

For Despard, Bryant, Hubbell, Arrow-H. & H., and G-E Wiring Devices



Furnished with Mounting Bridge
With 1 Opening—Sheet Steel

DS71	$0.50	Surface
DSS71	.50	Flush

With 2 Openings—Sheet Steel

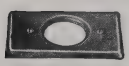
DS72	$0.50	Surface
DSS72	.50	Flush

With 3 Openings—Sheet Steel

DS73	$0.50	Surface
DSS73	.50	Flush

For G-E, 30-Ampere Flush Plug Receptacles

Diameter Cover Opening, 1⅝ Inches



Sheet Steel

DS35	$0.30	Surface
DSS35	.30	Flush

With Female Brass Nipple

Sheet Steel—⅜-Inch Nipple

DS18	$0.80	Surface

Sheet Steel—½-Inch Nipple

DS116	$0.90	Surface

Blank Covers

Sheet Steel

DS100	$0.20	Surface
DSS100	.20	Flush

Cast Feraloy—With Gasket

DS100g	$0.50	Surface
DS100g	.50	Flush

CROUSE-HINDS CONDULETS

CONDULET COVERS

For Condulets of the FS and FD Series, Single-Gang and FS Series 2-Gang Tandem; and Type ExF Extensions
For Pilot Lamp Flush Receptacles

Sheet Steel

Cast Feraloy

Jewel	Sheet Steel Surface No.	Sheet Steel Surface Each	Sheet Steel Flush No.	Sheet Steel Flush Each	Cast Feraloy Surface or Flush Vaportight No.	Cast Feraloy Surface or Flush Vaportight Each
Red	DS24	$2.00	DSS24	$2.00	DS24g	$2.50
Green	DS41	2.00	DSS41	2.00	DS41g	2.50
Amber	DS44	2.00	DSS44	2.00	DS44g	2.50
Opal	DS47	2.00	DSS47	2.00	DS47g	2.50
Clear	DS48	2.00	DSS48	2.00	DS48g	2.50
Blue	DS49	2.00	DSS49	2.00	DS49g	2.50

VAPORTIGHT AND WEATHERPROOF COVERS
With Switch Operating Mechanism

Surface or flush. Furnished with gasket.

For External Operation of Double Push Button Switches

Cat. No.	List Each	Material
	Furnished with Handle	
DS108	$3.50	Cast Feraloy

For Momentary Contact Switches

Cat. No.	List Each	Material
	Furnished with Handle	
DS107	$3.50	Cast Feraloy

For External Operation of Tumbler Switches

Cat. No.	List Each	Material
	For Standard Operation "On" or "Off"	
DS128	$3.50	Cast Feraloy

	For Momentary Contact Operation, Normally On	
DS126	3.50	Cast Feraloy
	Normally Off	
DS127	3.50	Cast Feraloy

	For Standard Operation, On or Off	
DS181	$3.50	Cast Feraloy
	For Momentary Contact Switches	
DS183	$3.50	Cast Feraloy

For Standard Operation "On" or "Off"

Furnished with Switch Mounting Bridge.

Switch Arrangement	Material	No.	Each
1 Switch	Cast Feraloy	DS101	$3.50
2 Switches	Cast Feraloy	DS102	5.00
3 Switches	Cast Feraloy	DS103	6.50

Furnished with Buttons for Operating Motor Control Push Button and "Standard" Push Button Switches.

For Motor Control Push Button Switches

Description	Switch Markings	Cat. No.	List Each
1 Button (Norm. Open)	Start	DS171F	$3.50
1 Button (Norm. Closed)	Stop	DS171G	3.50
2 Buttons (1 Norm. Open, 1 Norm. Closed)	Start, Stop	DS171	3.50
For "Standard" Flush Push Button Switches			
2 Buttons (On and Off)	On, Off	DS171C	$3.50

CROUSE-HINDS CONDULETS

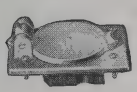
TYPE DS PLUG RECEPTACLE HOUSINGS

WITH RECEPTACLE

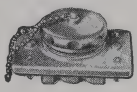
For Condulets of the FS and FD Series, Single-Gang and FS Series 2-Gang Tandem; and Type ExF Extensions

Take Standard Attachment Plugs

Plain Housing With Receptacle



Spring Door Housing With Receptacle



Threaded Cap Housing With Receptacle

15 Amperes, 125 Volts; 10 Amperes, 250 Volts
Hole in Cover, 1 7/16" Dia.

Receptacle Poles	Plain Cat. No.	Plain List, Each	With Spring Door Cat. No.	With Spring Door List, Each	With Threaded Cap‡ Cat. No.	With Threaded Cap‡ List, Each
Double T						
2-W., 2-P.	DS325	$2.00	DS332	$3.50	DS339	$4.00
Polarized						
2-W., 2-P.	DS326*	2.80	DS333*	4.30	DS340*	4.80
2-W., 3-P.*	DS327	3.50	DS334	5.00	DS341	5.50
3-W., 3-P.	DS328	4.00	DS335	5.50	DS342	6.00
Twistlock						
2-W., 2-P.	DS329	2.60	DS336	4.10	DS343	4.60
2-W., 3-P.*	DS330	3.80	DS337	5.30	DS344	5.80
3-W., 3-P.	DS331	4.30	DS338	5.80	DS345	6.30

20 Amperes, 125 or 250 Volts
Hole in Cover, 1 7/16" Dia.

Polarized						
2-W., 2-P.	DS346*	3.60	DS354*	5.10	DS362*	5.60
2-W., 3-P.*	DS347	4.20	DS355	5.70	DS135	8.00
3-W., 3-P.	DS348	4.20	DS356	5.70	DS139	8.00
3-W., 4-P.*	DS349	5.00	DS357	6.50	----------	----------
4-W., 4-P.	DS350	5.00	DS358	6.50	----------	----------
Twistlock						
2-W., 2-P.	DS351	2.90	DS359	4.40	DS365	4.90

20 Amperes, 125 or 250 Volts; 10 Amperes, 575 Volts A.C.
Hole in Cover, 1 7/16" Dia.

Twistlock						
2-W., 3-P.*	DS352	4.60	DS360	6.10	DS138†	8.00
3-W., 3-P.	DS353	4.60	DS361	6.10	DS137†	8.00

20 Amperes, 125 or 250 Volts; 10 Amperes, 575 Volts A.C.
Hole in Cover, 1 5/8" Dia.

Twistlock						
3-W., 4-P.*	DS366	5.80	DS368	7.30	----------	----------
4-W., 4-P.	DS367	5.80	DS369	7.30	----------	----------

*Extra pole grounded.

†For use only with Hubbell No. 9965 rubber plug.

‡Cannot be used with WP plugs.

*Takes Hubbell #6918 or similar plugs with right angle blades.

CROUSE-HINDS CONDULETS

TYPE DS PLUG RECEPTACLE HOUSINGS

For Condulets of the FS and FD Series, Single-Gang and FS Series 2-Gang Tandem; and Type ExF Extensions

Take Standard Attachment Plugs
Threaded Housings take Type WP Plugs
Surface or Flush
15 Amperes, 125 Volts; 10 Amperes, 250 Volts

With Spring Door **Without Spring Door**

Cat. No.	List, Each		Cat. No.	List, Each
DS83	$6.40	2-Wire, 2-Pole	DS85	$3.20
DS84	7.80	2-Wire, 3-Pole*	DS86	4.60
DS91	7.80	3-Wire, 3-Pole	DS92	4.60

With Threaded Cap† **Without Threaded Cap**

DS81	$5.00	2-Wire, 2-Pole	DS87	$3.50
DS82	6.90	2-Wire, 3-Pole*	DS88	5.40
DS90	6.90	3-Wire, 3-Pole	DS93	5.40

TYPE WP WATERTIGHT PLUGS

For use with Type DS and Type GS Threaded Receptacle Housings. 15 Amperes, 125 Volts, or 10 Amperes, 250 Volts.

Style	Size Cord	Cat. No.	List, Each
2-Pole	.375 to .500	WP721	$3.00
Tandem Blade	.500 to .625	WP821	3.00
2-Pole	.375 to .500	WP722	3.00
Parallel Blade	.500 to .625	WP822	3.00
3-Pole	.375 to .500	WP731	3.50
	.500 to .625	WP831	3.50

TYPE FAR ARKTITE RECEPTACLE HOUSINGS

For Condulets of the FS and FD Series, Single-Gang and FS Series 2-Gang Tandem; and Type ExF Extensions

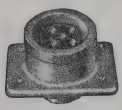
Take Type APJ Plugs
30 Amperes, 250 Volts D.C., 600 Volts A.C.

With Spring Door **Without Spring Door**

Style 1—Grounded Through Shell.
Style 2—Grounded Through Extra Pole and Shell.

No.	Each	Style		No.	Each
FAR321	$12.50	1	2-W., 2-P.	FAR323	$11.10
FAR331	13.50	1	3-W., 3-P.	FAR333	12.10
FAR341	15.10	1	4-W., 4-P.	FAR343	13.70
FAR351	17.50	1	5-W., 5-P.	FAR353	16.10
FAR332	15.50	2	2-W., 3-P.	FAR334	14.10
FAR342	17.10	2	3-W., 4-P.	FAR344	15.70
FAR352	20.60	2	4-W., 5-P.	FAR354	19.20

Without Threaded Cap **With Threaded Cap†**



Style 1—Grounded Through Shell.
Style 2—Grounded Through Extra Pole and Shell.

FAR325	$11.60	1	2-W., 2-P.	FAR327	$13.20
FAR335	12.60	1	3-W., 3-P.	FAR337	14.20
FAR345	14.20	1	4-W., 4-P.	FAR347	15.80
FAR355	16.60	1	5-W., 5-P.	FAR357	18.20
FAR336	14.60	2	2-W., 3-P.	FAR338	16.20
FAR346	16.20	2	3-W., 4-P.	FAR348	17.80
FAR356	19.50	2	4-W., 5-P.	FAR358	21.10

†Furnished with gaskets. *Extra pole grounded.

CROUSE-HINDS CONDULETS

TYPE BRD PLUG RECEPTACLE HOUSINGS

For Condulets of the FS and FD Series, Single-Gang and FS Series 2-Gang Tandem; and Type ExF Extensions

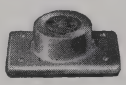
***30 Amperes, 250 Volts A.C.**

Can be used on Condulets mounted either on the surface of or flush with the wall. Take Type BP plugs. Two-pole housings are furnished with 30-ampere, 250-volt receptacle BR302; 3-pole housings with 30-ampere, 250-volt receptacle BR303; 4-pole with 30-ampere, 250-volt receptacle BR304.

With Spring Door

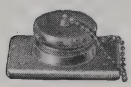
Cat. No.	List, Each
BRD6302	$8.40
BRD6303	9.80
BRD6304	11.20

Without Spring Door

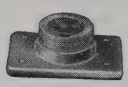


	Cat. No.	List, Each
2-Pole	BRD302	$5.20
3-Pole	BRD303	6.20
4-Pole	BRD304	7.20

With Threaded Cap



Without Threaded Cap



Furnished with gaskets.

Cat. No.	List, Each
BRD8302	$7.50
BRD8303	9.40
BRD8304	11.30

	Cat. No.	List, Each
2-Pole	BRD7302	$5.60
3-Pole	BRD7303	6.70
4-Pole	BRD7304	7.80

*Can be used on 25-ampere, 125-volt D.C. circuits; or on 30-ampere, 250-volt D.C. circuits if circuit is broken before plug is withdrawn.

GASKETS FOR FS AND FD SERIES CONDULETS

For Use Between Condulets and Covers

(Not recommended as watertight)

No. of Gangs	No. Rubber	No. Vellumoid	List, Each
1	Gask 91	Gask 412	$0.40
2	Gask 145	Gask 343	.50
3	Gask 135	.....	.60
4	Gask 146	.....	.80

For Use Between Condulets and Vaportight Covers

1	Gask 425	$0.40
2	Gask 434	.50
3	Gask 460	.60
4	Gask 461	.80

For Use in Threaded Cap for Type BRD Plug Receptacle Housings

No. of Poles	Rubber No.	Each
2	Gask 173	$0.20
3	Gask 144	.20
4	Gask 144	.20

CROUSE-HINDS CONDULETS

FS AND FD SERIES 2-GANG CONDULETS

FS Series Condulets take Covers and Shallow Flush Rectangular Wiring Devices.

FD Series Condulets take Covers and Deep or Shallow Flush Rectangular Wiring Devices.

Overall dimensions, exclusive of hubs: FS—Length, $4\frac{5}{16}$"; width, $4\frac{5}{8}$"; depth, $1\frac{7}{8}$": FD—Length, $4\frac{5}{16}$"; width, $4\frac{5}{8}$"; depth, $2\frac{1}{16}$".

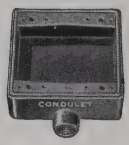
FS Condulets can be furnished with flat face ($4\frac{1}{2}$x$4\frac{5}{8}$x$2\frac{1}{16}$ inches) to take standard wall plates at the same list prices; add Suffix S24 to catalog number.

FS Series take devices $1\frac{5}{8}$" deep or less.

FD Series take devices $2\frac{3}{8}$" deep or less.

Threaded for Rigid Conduit (Thick Wall)

Type FS or FD



Type FSA or FDA

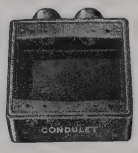
Cat. No.	List, Each	Size	Cat. No.	List, Each
FS12	$2.40	½	FSA12	$2.40
FS22	2.60	¾	FSA22	2.60
FS32	2.80	1	FSA32	2.80
FD12	2.80	½	FDA12	2.80
FD22	3.00	¾	FDA22	3.00
FD32	3.20	1	FDA32	3.20

Type FSE or FDE

Type FSC or FDC

FSE12	$2.60	½	FSC12	$2.60
.....		¾	FSC222	2.80
.....		1	FSC32	3.10
FDE12	3.00	½	FDC12	3.00
.....		¾	FDC222	3.20
.....		1	FDC32	3.50

Type FSS or FDS



Type FSD or FDB

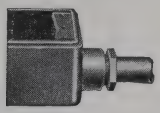
.....		½	FSD12	$2.90
FSS222	$2.80	¾★	FSD212	3.10
.....		1★	FSD312	3.30
.....		½	FDB12	3.30
FDS222	3.20	¾★	FDB212	3.50
.....		1★	FDB312	3.70

★The hubs at the top in the illustration are ½ inch on types FSD and FDB.

CROUSE-HINDS CONDULETS

FS AND FD SERIES 2-GANG CONDULETS

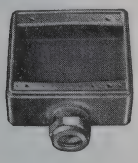
Threadless



For EMT (Thin Wall)

Illustrations shown above listings are for Rigid Conduit (Thick Wall).

Type FS or FD | **Type FSC or FDC**



Type FS or FD

Size	Thick Wall Cat. No.	Thin Wall Cat. No.	List, Each
½	FS192	FS12-MT	$2.50
¾	FS292	FS22-MT	2.80
1	FS392	FS32-MT	3.10
½	FD192	FD12-MT	2.90
¾	FD292	FD22-MT	3.20
1	FD392	FD32-MT	3.50

Type FSC or FDC

½	FSC192	FSC12-MT	$2.80
¾	FSC292	FSC222-MT	3.20
1	FSC392	FSC32-MT	3.70
½	FDC192	FDC12-MT	3.20
¾	FDC292	FDC222-MT	3.60
1	FDC392	FDC32-MT	4.10

FS SERIES CONDULETS, TWO-GANG TANDEM

Take Single-Gang Covers and Receptacle Housings Threaded for Rigid Conduit (Thick Wall)

Type FS, 2-Gang Tandem

Type FSC, 2-Gang Tandem

Cat. No.	List, Each	Size	Cat. No.	List, Each
FS17	$3.30	½	FSC17	$3.50
FS27	3.50	¾	FSC27	3.70
FS37	3.70	1	FSC37	3.90

Type ExF Two-Gang Extensions

Depth of Extension	Cat. No.	List, Each
1	ExF12	$2.10
4⅝	ExF42	5.70

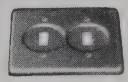
ExF12 ExF42

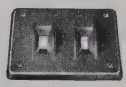
CROUSE-HINDS CONDULETS

2-GANG CONDULET COVERS

For Condulets of the FS and FD Series, 2-Gang and Type ExF 2-Gang Extensions

For Tumbler Flush Switches with Square Handles





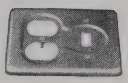
Sheet Steel

Cat. No.	List, Each	Style
S322	$0.60	Surface
SS322	.60	Flush

Cast Feraloy—Guarded

S322g	$1.30	Surface
S322g	1.30	Flush

For "Standard" Duplex Flush Receptacles



Sheet Steel

S32232	$1.00	Surface
SS32232	1.00	Flush

For Round Plug Flush Receptacles

Sheet Steel

S32212	$1.00	Surface
SS32212	1.00	Flush

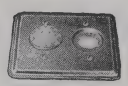
For Pilot Lamp Flush Receptacles

Furnished with red jewel.

Sheet Steel

S32242	$2.40	Surface
SS32242	2.40	Flush

For Round Flush Receptacles and Pilot Lamp Flush Receptacles

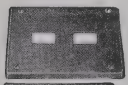


Sheet Steel—Furnished with Red Jewel

S21242	$2.50	Surface
SS21242	2.50	Flush

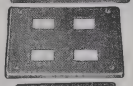
Take P&S-Despard, Bryant, Hubbell, Arrow-H. & H., and General Electric Interchangeable Wiring Devices—Sheet Steel

Furnished with mounting bridge.



With 2 Openings

Cat. No.	List, Each	Style
S712	$1.00	Surface
SS712	1.00	Flush



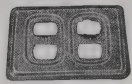
With 4 Openings

S722	$1.00	Surface
SS722	1.00	Flush

With 6 Openings

S732	$1.00	Surface
SS732	1.00	Flush

For Round Flush Receptacles



Sheet Steel

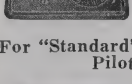
S212	$0.60	Surface
SS212	.60	Flush

For "Standard" Duplex Flush Receptacles

Sheet Steel

S232	$0.60	Surface
SS232	.60	Flush

For Round Flush Receptacles and "Standard" Duplex Flush Receptacles



Sheet Steel

S21232	$1.00	Surface
SS21232	1.00	Flush

For "Standard" Duplex Flush Receptacles, and for Pilot Lamp Flush Receptacles

Furnished with red jewel.

Sheet Steel

S23242	$2.50	Surface
SS23242	2.50	Flush

Blank Metal Covers

Sheet Steel

S1002	$0.40	Surface
SS1002	.40	Flush

Cast Feraloy—With Gasket

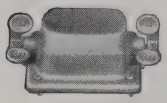
S1002g	$1.00	Surface
S1002g	1.00	Flush

CROUSE-HINDS CONDULETS

2-GANG VAPORTIGHT AND WEATHERPROOF COVERS

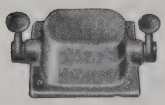
For Condulets of the FS and FD Series, 2-Gang and Type ExF 2-Gang Extensions With Switch Operating Mechanism

Surface or flush. Furnished with gasket.
For Standard Tumbler Switches



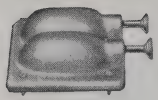
For Standard Operation, On or Off

Cat. No.	List Each	Material
DS1812	$6.00	Feraloy



For Momentary Contact Operation

DS1832	$6.00	Feraloy



For Standard Operation, On or Off

DS1282	$6.00	Feraloy

For Momentary Contact Operation Normally On

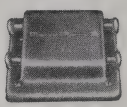
DS1262	$6.00	Feraloy

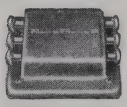
For Momentary Contact Operation Normally Off

DS1272	$6.00	Feraloy

For Standard Operation "On" or "Off"

Take P&S-Despard, Bryant, Hubbell, Arrow-H.&H., and GE Interchangeable Switches. Furnished with Switch Mounting Bridges.





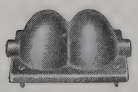
	Cat. No.	List Each	Material
For 2 Switches	DS1012	$6.00	Feraloy
For 4 Switches	DS1022	9.00	Feraloy
For 6 Switches	DS1032	12.00	Feraloy

For External Operation of Double Push Button Switches
Furnished with Handle

Cat. No.	List Each	Material
DS1082	$6.00	Feraloy

For Momentary Contact Switches

DS1072	$6.00	Feraloy



For Double Push Button or Momentary Contact Switches

Furnished with Key§

DS1062	$6.00	Feraloy

§Extra keys for Vaportight Cover, Cat. No. Key 1—List Price, $0.40.

CROUSE-HINDS CONDULETS

FS AND FD SERIES 3-GANG CONDULETS

FS Series Condulets take Covers and Shallow Flush Rectangular Wiring Devices.

FD Series Condulets take Covers and Deep or Shallow Flush Rectangular Wiring Devices.

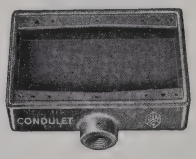
Overall Dimensions, exclusive of hubs: FS—Length, $4\frac{5}{16}$"; width, $6\frac{1}{2}$"; depth, $1\frac{7}{8}$": FD—Length, $4\frac{5}{16}$"; width, $6\frac{1}{2}$"; depth, $2\frac{1}{16}$". FS Condulets can be furnished with flat face ($4\frac{1}{2}$x$6\frac{1}{2}$x$2\frac{1}{16}$ inches) to take standard wall plates at the same list prices; add Suffix S24 to catalog number.

FS Series take devices $1\frac{5}{8}$" deep or less.

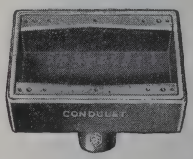
FD Series take devices $2\frac{3}{8}$" deep or less.

Threaded for Rigid Conduit (Thick Wall)

Type FS or FD



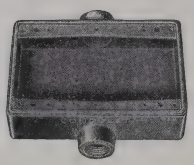
Type FSA or FDA



Cat. No.	List Each	Size
FS23	$3.60	¾
FS33	3.90	1
FD23	4.20	¾
FD33	4.50	1

Cat. No.	List Each
FSA23	$3.60
FSA33	3.90
FDA23	4.20
FDA33	4.50

Type FSC or FDC



Type FSS or FDS

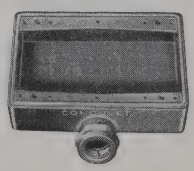
FSC23	$3.80	¾
FSC333	4.10	1
FDC23	4.40	¾
FDC333	4.70	1
FDC43	7.00	1¼

FSS23	$4.10
.....	.....
FDS223	4.90
.....	.....
.....	.....

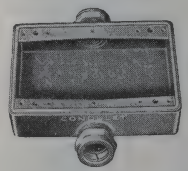
Threadless

Illustrations shown above listings are for Rigid Conduit (Thick Wall).

Type FS or FD



Type FSC or FDC



Thick Wall Cat. No.	Thin Wall Cat. No.	List Each	Size
FS293	FS23-MT	$3.80	¾
FS393	FS33-MT	4.20	1
FD293	FD23-MT	4.40	¾
FD393	FD33-MT	4.80	1
.....	.....	.....	1¼

Thick Wall Cat. No.	Thin Wall Cat. No.	List Each
FSC293	FSC23-MT	$4.20
FSC393	FSC333-MT	4.70
FDC293	FDC23-MT	4.80
FDC393	FDC333-MT	5.30
.....	FDC43-MT	7.80

CROUSE-HINDS CONDULETS

3-GANG CONDULET COVERS

For Condulets of the FS and FD Series, 3-Gang and Type ExF 3-Gang Extensions

For Double Push Button, Double Push Button Momentary Contact, and Double Push Lock Switches

Sheet Steel

Cat. No.	List Each	Style
S83	$0.90	Surface
SS83	.90	Flush

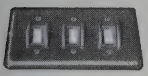
Cast Feraloy—Guarded

S83g	$2.00	Surface or Flush

For Tumbler Flush Switches with Square Handles

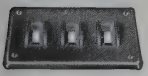
Sheet Steel

S323	$0.90	Surface
SS323	.90	Flush



Sheet Steel—Guarded

S523	$1.50	Surface
SS523	1.50	Flush



Cast Feraloy—Guarded

S323g	$2.00	Surface
S323g	2.00	Flush

Blank Metal Covers

Sheet Steel

S1003	$0.80	Surface
SS1003	.80	Flush

Cast Feraloy—with Gasket

S1003g	$1.50	Surface
S1003g	1.50	Flush

3-GANG VAPORTIGHT COVERS

For Condulets of the FS and FD Series, 3-Gang and Type ExF Extensions, 3-Gang With Switch Operating Mechanism

For External Operation of Tumbler Switches

Surface or flush; furnished with gasket.

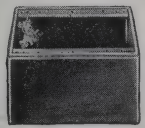
Cast Feraloy

For Standard Operation "On" and "Off"		For Momentary Contact Operation		
No.	Each	No.	Each	Normally
DS1283	$8.50	DS1263	$8.50	"On"
		DS1273	8.50	"Off"

TYPE ExF THREE-GANG EXTENSIONS

For FS and FD Series Condulets, 3-Gang

ExF13



ExF43

Depth Ext.	Cat. No.	List Each
1	ExF13	$2.90
4⅝	ExF43	7.50

CROUSE-HINDS CONDULETS

FS AND FD SERIES 4-GANG CONDULETS

FS Series Condulets, Four-Gang take Covers and Shallow Flush Rectangular Wiring Devices

FD Series Condulets, Four-Gang take Covers and Deep or Shallow Flush Rectangular Wiring Devices

Overall Dimensions, exclusive of hubs: FS—Length, $4\frac{5}{16}$"; width, $8\frac{3}{8}$"; depth, $1\frac{7}{8}$": FD—Length, $4\frac{5}{16}$"; width, $8\frac{3}{8}$"; depth, $2\frac{1}{16}$".

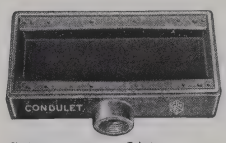
FS Condulets can be furnished with flat face ($4\frac{1}{2}$x$8\frac{5}{16}$x$2\frac{1}{8}$ inches) to take standard wall plates at the same list prices; add suffix S24 to catalog number.

FS Series take devices $1\frac{5}{8}$" deep or less.

FD Series take devices $2\frac{3}{8}$" deep or less.

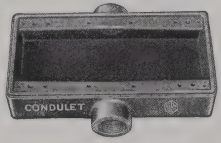
Threaded for Rigid Conduit (Thick Wall)

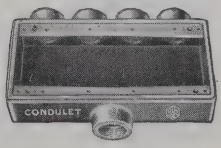
Type FS or FD **Type FSA or FDA**



Cat. No.	List Each	Size	Cat. No.	List Each
FS24	$4.40	¾	FSA24	$4.40
FS34	4.80	1	FSA34	4.80
FD24	5.20	¾	FDA24	5.20
FD34	5.60	1	FDA34	5.60

Type FSC or FDC **Type FSD or FDB**



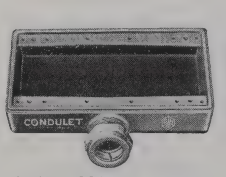


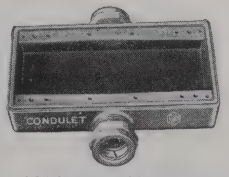
----------		½	FSD14	$5.20
FSC24	$4.70	¾★	FSD214	5.70
FSC34	5.00	1★	FSD314	6.20
----------		½	FDB14	6.00
FDC24	5.50	¾★	FDB214	6.50
FDC34	5.80	1★	FDB314	7.00

Threadless

Illustrations shown above listings are for Rigid Conduit (Thick Wall).

Type FS or FD **Type FSC or FDC**





Thick Wall No.	Thin Wall No.	List Each	Size	Thick Wall No.	Thin Wall No.	List Each
FS294	FS24-MT	$4.60	¾	FSC294	FSC24-MT	$5.10
FS394	FS34-MT	5.10	1	FSC394	FSC34-MT	5.60
FD294	FD24-MT	5.40	¾	FDC294	FDC24-MT	5.90
FD394	FD34-MT	5.90	1	FDC394	FDC34-MT	6.40

★The hubs at the top in the illustration are ½-inch on Types FSD and FDB.

CROUSE-HINDS CONDULETS

4-GANG CONDULET COVERS

For Condulets of the FS and FD Series, 4-Gang and Type ExF 4-Gang Extensions

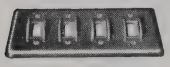
For Double Push Button, Double Push Button Momentary Contact, and Double Push Lock Switches

Cat. No.	List Each	Style
	Sheet Steel	
S84	$1.20	Surface
SS84	1.20	Flush

	Cast Feraloy—Guarded	
S84g	$2.80	Surface or Flush

For Tumbler Flush Switches with Square Handles

	Sheet Steel	
S324	$1.20	Surface
SS324	1.20	Flush



	Sheet Steel—Guarded	
S524	$2.80	Surface
SS524	2.80	Flush

	Cast Feraloy—Guarded	
S324g	$2.80	Surface
S324g	2.80	Flush

Blank Metal Covers

	Sheet Steel	
S1004	$1.20	Surface
SS1004	1.20	Flush

	Cast Feraloy—With Gasket	
S1004g	$2.00	Surface
S1004g	2.00	Flush

4-Gang Vaportight Covers With Switch Operating Mechanism

Surface or flush — furnished with gasket.

For External Operation of Tumbler Switches

Cast Feraloy

For Standard Operation "On" and "Off" No.	Each	For Momentary Contact Operation No.	Each	Normally
DS1284	$10.00	DS1264	$10.00	"On"
		DS1274	10.00	"Off"

TYPE ExF 4-GANG EXTENSIONS

For Condulets of the FS and FD Series, 4-Gang

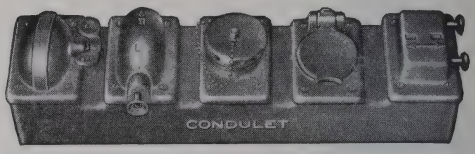
ExF44

ExF14

Depth Ext.	Cat. No.	List Each
1	ExF14	$3.30
4⅝	ExF44	9.00

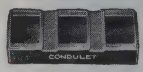
CROUSE-HINDS CONDULETS

TYPES FS AND FD MULTIPLE GANG CONDULETS — Without Hubs



Type FS, Five Gang With Push Button and Tumbler Switch Covers, and Threaded Cap and Spring Door Housings

Type FS, Two-Gang Tandem



Type FS, Three-Gang

Listed without hubs. Can be furnished with brazed conduit hubs complete with integral bushings or can be drilled on the job and used with locknut and bushing. Take all individual covers to make up combination of several devices in one Condulet.

No. of Gangs	Type FS No.	Type FS Each	Type FD No.	Type FD Each
Single	FS01	$1.00	FD01	$1.20
Two-Gang Tandem	FS097	2.50	FD097	2.90
Two-Gang	FS02	2.50	FD02	2.90
Three-Gang	FS03	4.00	FD03	4.60
Four-Gang	FS04	5.50	FD04	6.30
Five-Gang	FS05	7.00	FD05	8.00

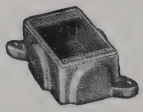
When ordering with brazed hubs specify type (threaded, union, threadless thin wall or threadless thick wall), size, and location of each hub. Furnish description or sketch of hub layout desired.

Prices of Brazed Hubs

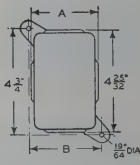
Size In.	Threaded	Union	Threadless Thick Wall or Thin Wall
½	$1.10	$1.80	$1.50
¾	1.20	1.80	1.70
1	1.40	2.20	2.00
1¼ *	1.70	3.20	2.40
1½*	2.00	--------	--------

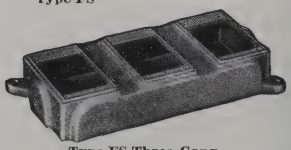
*For FD Series only.

TYPE FS CONDULETS With Bosses for Tapping



Type FS





Type FS Three-Gang

No.	Each	Condulet	Dimensions A	B	Depth
FS019	$1.50	Single	3¼	3¼	1 31/32
FS029	3.00	Two-Gang	7	7	1 31/32
FS039	4.50	Three-Gang	10¾	10¾	1 31/32

DRILLING AND TAPPING INFORMATION

These Condulets can be drilled and tapped on the job or if specified will be drilled and tapped at the factory for the following prices per opening: ½ or ¾ inch, **$0.10**; 1 inch, **$0.20**.

CROUSE-HINDS CONDULETS

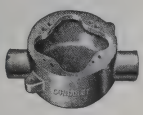
SK SERIES CONDULETS

For Concealed Installations in Concrete

Take covers, vaportight fixtures, or 3¼-inch outlet box round base wiring devices with 2¾-inch screw centers.

A gasket is made for use with blank covers, so that when used with SK Series Condulets, an excellent vaportight junction box is provided.

Type SK



Type SKC

Type SKL

Type SKT

Type SKX

Size In.	2-Inch Depth No.	2-Inch Depth Each	3-Inch Depth No.	3-Inch Depth Each
		Type SK		
½	SK12	$2.00	SK13	$2.30
¾	SK22	2.20	SK23	2.50
1	SK32	2.40	SK33	2.70
		Type SKC		
½	SKC12	$2.20	SKC13	$2.50
¾	SKC22	2.40	SKC23	2.70
1	SKC32	2.60	SKC33	2.90
		Type SKL		
½	SKL12	$2.20	SKL13	$2.50
¾	SKL22	2.40	SKL23	2.70
1	SKL32	2.60	SKL33	2.90
		Type SKT		
½	SKT12	$2.40	SKT13	$2.70
¾	SKT22	2.60	SKT23	2.90
1	SKT32	2.80	SKT33	3.10
		Type SKX		
½	SKX12	$2.60	SKX13	$2.90
¾	SKX22	2.80	SKX23	3.10
1	SKX32	3.00	SKX33	3.30

COVERS AND GASKETS

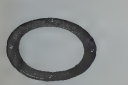
For SK Series Condulets

Blank Cover

No.	Each	Material	Size Hub In.
SK809	$0.60	Cast Feraloy	....

Hub Covers

SK83	$1.30	Cast Feraloy	⅜
SK84	1.30	Cast Feraloy	½
SK86	1.50	Cast Feraloy	¾



Gasket

For use between Condulets and wiring devices or covers.

Gask 208 $0.50 ....

GRF SERIES CONDULETS

Body Only With Lugs

GRF Series Condulets take Flush or Surface Covers, Vaportight Lighting Fixtures, Fixture Hangers and Receptacles with Housings.

Body Only Without Lugs

Bodies Only — Without Tapping

Cast Feraloy

Inside Depth In.	Without Lugs No.	Without Lugs Each	With Lugs No.	With Lugs Each
1½	GRF1	$1.55	GRF19	$1.75
2¼	GRF2	2.00	GRF29	2.20
3	GRF3	2.30	GRF39	2.50

CROUSE-HINDS CONDULETS

COVERS FOR GRF SERIES CONDULETS

Blank Metal Covers

Surface Cat. No.	Surface List Each	Hub Size	Material	Flush Cat. No.	Flush List Each
GRF10	$0.55	....	Feraloy	GRF50	$0.90
			Hub Covers		
GRF11	1.10	½	Feraloy	GRF51	1.20
GRF12	1.30	¾	Feraloy	GRF52	1.40
			Gaskets		
Gask 643	.20	....	Rubber	Gask 690	.15

TYPE GRV AND VGR VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

For Surface or Flush Mounted GRF Series Condulets

Screw Guard Type

Pendent Type

Form 100 is furnished with Globe V75 and Guard V911, and takes 50, 60, 75, or 100-Watt Lamps.

Bracket Type

Form 200 is furnished with Globe V200 and Guard V912, and takes 150 or 200-watt Lamps.

Form	Style	With Globe and Guard — Pendent Type No.	Pendent Type Each	Bracket Type No.	Bracket Type Each
100	Surface	GRV34	$9.10	VGR1139	$10.50
100	Flush	GRV1493	9.10	VGR1129	10.50
200	Surface	GRV32	10.20	VGR1239	12.00
200	Flush	GRV2493	10.20	VGR1229	12.00

Feraloy lighting fixtures are regularly furnished with cast aluminum guards.

TYPE ARB FLEXIBLE FIXTURE HANGER

For Pendent Fixtures with ½-Inch Stems

Type ARB Cushion Hanger

Wt. Fixture Lbs.	Surface No.	Surface Each	Flush No.	Flush Each
2 to 4	ARB142	$1.50	ARB144	$1.70
4 to 8	ARB82	1.50	ARB84	1.70
8 to 16	ARB102	1.50	ARB104	1.70
16 to 30	ARB122	1.50	ARB124	1.70

TYPE ARB RECEPTACLE HOUSINGS

Take Type BP Plugs

Without Spring Door

With Spring Door

With Threaded Cap

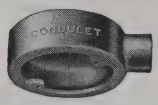
25-A., 125-V. D.C.; 30-A., 250-V. D.C.

Style	2-Pole No.	2-Pole Each	3-Pole No.	3-Pole Each	4-Pole No.	4-Pole Each
			Without Spring Door			
Surf.	ARB323	$5.70	ARB333	$7.20	ARB343	$8.50
Flush	ARB223	5.90	ARB233	7.40	ARB243	8.70
			With Spring Door			
Surf.	ARB321	8.90	ARB331	10.80	ARB341	12.50
Flush	ARB221	9.10	ARB231	11.00	ARB241	12.70
			With Threaded Cap			
Surf.	ARB327	8.00	ARB337	10.40	ARB347	12.60
Flush	ARB227	8.20	ARB237	10.60	ARB247	12.80

CROUSE-HINDS CONDULETS

SE SERIES CONDULETS

Take covers or 3¼-inch octagonal outlet box round base wiring devices.

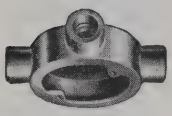


Type SE

Size In.	Cat. No.	List Each
½	SE1	$1.60
¾	SE2	1.80
1	SE3	2.20

Type SEC

Size In.	Cat. No.	List Each
½	SEC1	$1.90
¾	SEC2	2.10
1	SEC3	2.50



Type SET

Size In.	Cat. No.	List Each
½	SET1	$2.10
¾	SET2	2.30
1	SET3	2.70

Type SEX

Size In.	Cat. No.	List Each
½	SEX1	$2.30
¾	SEX2	2.50
1	SEX3	2.90

SEH SERIES CONDULETS

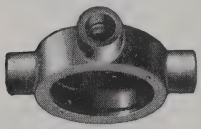
Take 4-inch octagonal outlet box round base wiring devices or SEH covers.

Type SEH

Size In.	Cat. No.	List Each
½	SEH1	$1.60
¾	SEH2	1.80
1	SEH3	2.20

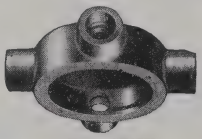
Type SEHC

Size In.	Cat. No.	List Each
½	SEHC1	$1.90
¾	SEHC2	2.10
1	SEHC3	2.50



Type SEHT

Size In.	Cat. No.	List Each
½	SEHT1	$2.10
¾	SEHT2	2.30
1	SEHT3	2.70



Type SEHX

Size In.	Cat. No.	List Each
½	SEHX1	$2.30
¾	SEHX2	2.50
1	SEHX3	2.90

COVERS AND GASKETS

For SE and SEH Series Condulets

Covers can be used with or without Gasket

Blank Covers

Cat. No.	List Each	Material	Size Hub In.	Cat. No.	List Each
SEH000	$0.30	Sheet Steel	----	--------	--------
SEH00	.60	Feraloy	----	SE00	$1.30
Hub Covers					
SEH83	$1.30	Feraloy	⅜	SE83	$1.40
SEH84	1.30	Feraloy	½	SE84	1.40

Gaskets

For use between Condulets and covers or wiring devices.

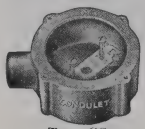
Gask 202 $0.40 **Gask 156 $0.40**

CROUSE-HINDS CONDULETS

GS SERIES CONDULETS

With Fastening Strap for Wiring Devices

Take covers, fixtures, round base snap switches, vaportight fixtures, receptacles with housings, or connection blocks.

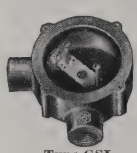


Type GS

Type GSA

Type GSC

Size In.	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
			Form 5			
½	GS15	$1.80	GSA15	$1.80	GSC15	$2.00
¾	GS25	2.10	GSA25	2.10	GSC25	2.30
1	GS35	2.50	GSA35	2.50	GSC35	2.70
			Form 10			
½	GS110	$1.80	GSA110	$1.80	GSC110	$2.00
¾	GS210	2.10	GSA210	2.10	GSC210	2.30
1	GS310	2.50	GSA310	2.50	GSC310	2.70
			Form 20			
½	GS120	$3.00	GSA120	$3.00	GSC120	$3.20
¾	GS220	3.30	GSA220	3.30	GSC220	3.50
1	GS320	3.70	GSA320	3.70	GSC320	3.90



Type GSL

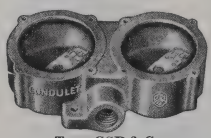
Type GST

Type GSX

Size In.	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
			Form 5			
½	GSL15	$2.00	GST15	$2.40	GSX15	$2.70
¾	GSL25	2.30	GST25	2.70	GSX25	3.00
1	GSL35	2.70	GST35	3.10	GSX35	3.60
			Form 10			
½	GSL110	$2.00	GST110	$2.40	GSX110	$2.70
¾	GSL210	2.30	GST210	2.70	GSX210	3.00
1	GSL310	2.70	GST310	3.10	GSX310	3.60
			Form 20			
½	GSL120	$3.20	GST120	$3.60	GSX120	$3.90
¾	GSL220	3.50	GST220	4.00	GSX220	4.40
1	GSL320	3.90	GST320	4.60	GSX320	5.40

GS SERIES 2-GANG CONDULETS WITH LUGS

Take covers, fixtures, round base snap switches, vaportight fixtures, plug receptacle housings, or connection blocks. Furnished with fastening straps for wiring devices.



Type GSB 2-Gang

Type GSD 2-Gang

Size Inches	Cat. No.	List Each		Cat. No.	List Each
½	GSB1529	$4.20		GSD1529	$4.60
¾	GSB2529	4.80	Form 5	GSD2529	5.20
1	GSB3529	5.60		GSD3529	6.00
½	GSB1129	4.20		GSD1129	4.60
¾	GSB2129	4.80	Form 10	GSD2129	5.20
1	GSB3129	5.60		GSD3129	6.00
½	GSB1229	6.60		GSD1229	7.00
¾	GSB2229	7.20	Form 20	GSD2229	7.60
1	GSB3229	8.00		GSD3229	8.40

Forms 5, 10, and 20 indicate sizes of Condulets which take covers and wiring devices correspondingly classified. If specified on order, GS Series Condulets will be furnished with lugs, 30 cents extra. Also available in GS 3-Gang Series.

CROUSE-HINDS CONDULETS

COVERS AND ACCESSORIES FOR GS SERIES CONDULETS

Vaportight Switch Covers

Furnished with gasket.

Cat. No.	List Each	Form	Max. Dia. Sw. Base
GS58	$2.60	5	2 1/16
GS108	2.60	10	2 11/16
GS208	4.00	20	3 7/8

Blank Covers—Vaportight

With Gasket			Without Gasket	
No.	Each	Form	No.	Each
GS50	$1.00	5	GS50a	$0.80
GS100	1.00	10	GS100a	1.00
GS200	1.80	20	GS200a	1.50

LAMP RECEPTACLES

Keyless—Composition—600 Watts, 600 Volts

No.	Without Lamp Grip Each	With Lamp Grip Each	Form
GS59	$1.00	--------	5
GS569	--------	$1.20	5

Key Receptacle—Armored

With Lamp Grip
250 Watts, 250 Volts

No.	Each	Form
GS549	$4.00	5

MIDGET GUARD FIXTURES

Consists of holder, guard, receptacle and gaskets.

No.	Each	Length Guard, In.	Form
GS1631	$6.10	5¼	10

CONNECTION BLOCKS

Composition

5-Wire

5-Wire—20 Amperes, 125 Volts

No.	Each	Form
CF210	$1.30	10 and 20

2-Wire—30 Amperes, 250 Volts

CF209	1.70	20

2-Wire

FUSE BLOCK—Composition

Main Line, 2-Pole
30 Amperes, 250 Volts

No.	Each	Form
GS34	$1.50	20

TYPE GS VAPORTIGHT FIXTURES

For GS Series Form 20 Conduletes

Screw Guard Type

Pendent Type

Form 100 is furnished with No. V75 globe and No. V911 guard, and takes 50, 60, 75, or 100-watt lamps.

Form 200 is furnished with No. V200 globe and No. V912 guard, and takes 150 or 200-watt lamps.

Bracket Type

Form	Pendent Type With Globe and Guard No.	Each	Without Globe and Guard No.	Each
100	GS675	$9.50	GS6	$4.30
200	GS8200	11.00	GS8	4.90
	Bracket Type			
100	GS775	$9.50	GS7	$4.30
200	GS9200	11.00	GS9	4.90

Forms 5, 10, and 20 indicate sizes of Condulets which take covers and wiring devices correspondingly classified.

CROUSE-HINDS CONDULETS

ACCESSORIES FOR GS SERIES CONDULETS

TYPE BRG PLUG RECEPTACLE HOUSINGS

‡30 Amperes, 250 Volts A.C.

These housings take Type BP plugs.

With Spring Door

Without Spring Door

With Threaded Cap

With Spring Door

Form	2-Pole Cat. No. BRG-	List Each	3-Pole Cat. No. BRG-	List Each	4-Pole Cat. No. BRG-	List Each
5	56302	$8.20	---------	---------	---------	---------
10	16302	8.20	16303	$10.10	16304	$11.80
20	26302	9.40	26303	11.10	26304	12.80

Without Spring Door

5	5302	$5.00	-------	---------	-------	---------
10	1302	5.00	1303	$ 6.50	1304	$ 7.80
20	2302	6.20	2303	7.50	2304	8.80

With Threaded Cap

Furnished with gasket.

5	58302	$7.30	---------	---------	---------	---------
10	18302	7.30	18303	$ 9.70	18304	$11.90
20	28302	8.50	28303	10.70	28304	12.90

TYPE GS PLUG RECEPTACLE HOUSINGS

15 Amperes, 125 Volts or 10 Amperes, 250 Volts

For "standard" attachment plug caps.

With Spring Door

Without Spring Door

With Threaded Cap**

With Spring Door

Form	2-Wire, 2-Pole Cat. No.	List Each	*2-Wire, 3-Pole Cat. No.	List Each	3-Wire, 3-Pole Cat. No.	List Each
5	GS583	$6.20	GS584	$7.60	GS591	$7.60
10	GS183	6.20	GS184	7.60	GS191	7.60
20	GS283	7.40	GS284	8.80	GS291	8.80

Without Spring Door

5	GS585	$3.00	GS586	$4.40	GS592	$4.40
10	GS185	3.00	GS186	4.40	GS192	4.40
20	GS285	4.20	GS286	5.60	GS292	5.60

With Threaded Cap

Furnished with gasket.

5	GS581	$5.30	GS582	$6.70	GS590	$6.70
10	GS181	5.30	GS182	6.70	GS190	6.70
20	GS281	6.50	GS282	7.90	GS290	7.90

*Third pole grounded.

**Take Crouse-Hinds Type WP plugs.

‡Can be used on 25-Amp., 125-Volt, D.C. circuits; or on 30-Amp., 250-Volt, D.C. circuits if circuit is broken before plug is withdrawn.

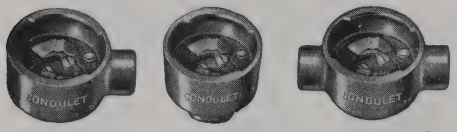
Forms 5, 10, and 20 indicate sizes of Condulets which take covers and wiring devices correspondingly classified.

CROUSE-HINDS CONDULETS

CR SERIES CONDULETS WITHOUT CAPS

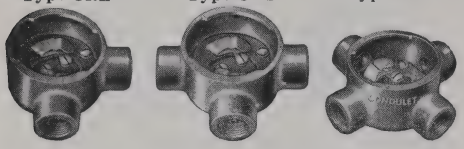
Furnished with Rosette Base and Take Iron Clad Rosette Caps

Type CR **Type CRA** **Type CRC**



Size	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
½	CR1	$3.65	CRA1	$3.65	CRC1	$3.85
¾	CR2	3.75	CRA2	3.75	CRC2	3.95

Type CRL **Type CRT** **Type CRX**



Size	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
½	CRL1	$3.85	CRT1	$4.05	CRX1	$4.25
¾	CRL2	3.95	CRT2	4.15	CRX2	4.35

IRON CLAD ROSETTE CAPS

For CR Series Condulets

	Diameter Cord	Cat. No.	List Each
With Rubber Bushing	.125 to .250	CRH1	$4.55
	.250 to .375	CRH2	4.55
	.375 to .500	CRH3	4.55
	.500 to .625	CRH5	4.55
With Lead Sleeve	.500 to .593	CRH41	5.00

TYPE XJ CONDUIT EXPANSION JOINTS

Vaportight and Weatherproof

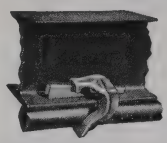
Furnished with End Bushing and Lead Wool Packing for Movable Conduit

Relieve long conduit runs from strain caused by expansion and contraction, due to temperature changes.

GC100 grounding strap, with GC101 or GC102 strap clamps, constitutes an approved bonding jumper and is especially suited for this purpose.

Size Conduit	Maximum Conduit Movement	Minimum Length of GC100 Strap	Cat. No.	List Each
½	4	28	XJ14	$4.50
	8	36	XJ18	5.00
	12	44	XJ112	6.00
¾	4	30	XJ24	5.50
	8	38	XJ28	6.00
	12	46	XJ212	7.00
1	4	32	XJ34	6.90
	8	40	XJ38	7.40
	12	48	XJ312	8.40
1¼	4	34	XJ44	8.60
	8	42	XJ48	9.20
	12	50	XJ412	10.40
1½	4	36	XJ54	12.20
	8	44	XJ58	13.00
	12	52	XJ512	14.60
2	4	40	XJ64	17.50
	8	48	XJ68	18.50
	12	56	XJ612	20.50
2½	4	44	XJ74	26.00
	8	52	XJ78	27.70
	12	60	XJ712	31.10
3	4	48	XJ84	35.00
	8	56	XJ88	37.00
	12	64	XJ812	42.00

CROUSE-HINDS WEDGTITE HANGERS AND WIRE SUPPORTS



Type CHRP Installed

Wedgtite hangers are for attaching conduits or wire hangers to structural steel members. They can be installed without drilling or in any way preparing the member. A few blows of hammer makes attachment secure.

Type CHRP—For pipe running parallel or at right angle to support.

No. For Flange ⅛"-½"	No. For Flange ¼"-⅝"	Conduit Size	List Each
CHRP1	CHRP12	½	$0.80
CHRP2	CHRP22	¾	.90
CHRP3	CHRP32	1	1.00
CHRP4	CHRP42	1¼	1.10
CHRP5	CHRP52	1½	1.20
CHRP6	CHRP62	2	1.30

TYPE CUC SIGN CONDULETS

Used to support bracket arms of lighting fixtures for sign illumination and provide means of wiring fixtures. Gasket makes a raintight joint between the Conduit and support pipe.

Style 1 has a bushing which projects into a clearance hole drilled in the support pipe. Style 2 has two locking screws and an external hub for connection of a separate supply conduit.

Support Pipe	Bracket Arms	Style 1 — ¾" Bushing Hole* Cat. No. CUC-	Style 1 — ¾" Bushing Hole* List Each	Style 1 — 1⅛" Bushing Hole† Cat. No. CUC-	Style 1 — 1⅛" Bushing Hole† List Each	Style 2 — Feeder Hub Size ½" Cat. No. CUC-	Style 2 — Feeder Hub Size ½" List Each
1	½	----	--------	135	$2.00	132	$2.50
	¾	----	--------	------	--------	232	2.70
1¼	½	14	$2.10	145	2.10	142	2.60
	¾	24	2.30	------	--------	242	2.80
1½	½	15	2.20	155	2.20	152	2.70
	¾	25	2.40	------	--------	252	2.90
2	½	16	2.30	165	2.30	162	2.80
	¾	26	2.50	------	--------	262	3.00
2½	½	17	2.40	------	--------	------	--------

TYPE CUH HUB PLATES

Used to connect ¾-inch conduit to a sign mast or support pipe. The gasket supplied makes a raintight joint between hub plate and pipe.

Fastened to the pipe with two 12-24 machine screws, requiring two tapped holes in the pipe, 2¾ inches on centers.

Size, Inches Support Pipe	Bushing Conduit	Hole*	Cat. No.	List Each
2, 2½, or 3	¾	¾	CUH28	$0.50

*Drill 1⅛" hole in support pipe for bushing.
†Drill ¾" hole in support pipe for bushing.

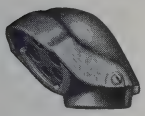
PED CONDULET PEDESTALS

Rigid support for Condulets mounted on conduit that projects through the floor.

Hght. Inches	Threaded No.	Not Threaded No.	Each	Size In.	Ht. In.	Not Threaded No.	Each
3	----------	Ped13	$1.90	½	6	Ped16	$3.50
3	Ped223	Ped23	2.40	¾	6	Ped26	4.00
3	Ped333	Ped33	2.90	1	6	Ped36	4.50
3	Ped443	Ped43	3.40	1¼	6	Ped46	5.00
3	----------	Ped53	3.90	1½	6	Ped56	5.50
3	----------	Ped63	4.40	2	6	Ped66	6.00
3	----------	Ped73	4.90	2½	6	Ped76	6.50

CROUSE-HINDS SERVICE ENTRANCE CONDUIT FITTINGS

For Threaded Heavy Wall Conduit



*Type F Caps

Form 8

Furnished with composition cover with knockouts to accommodate 5 to 7 wires.

Size In.	Cat. No.	List, Each
½	F186	$0.60
¾	F285	.75
1	F385	1.05
1¼	F487	1.40
1½	F586	2.40
2	F686	4.90

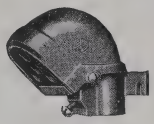
*Type F Caps

Form 6

Furnished with composition cover for 2 or 3-wire service. Four-wire covers can be furnished at the same price.

Size In.	Cat. No.	List, Each
2½	F766	$14.70
3	F866	21.35
3½	F963	28.50
4	F1063	35.60
4½	F01163	80.10
5	F01263	81.90
6	F01463	85.45

Type FEE Caps



Type FED Caps

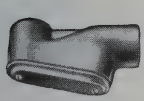
Caps for Type SE 3-conductor oval or 2-conductor round service entrance cable (with or without steel serving) with bare neutral.

Cast aluminum.

Cat. No.	Max. Dimen. of Cable, In. Oval	Round	List, Each	Cat. No.	Size of Cable	List, Each
FEE8	.625x.750	.625	$0.80	FED284	#10	$1.80
FEE4	.750x.940	.750	1.05	FED384	#6	1.95
FEE2	.844x1.188	.844	1.80	----------	-----	--------

ELBOWS AND TEES

Form 6



Type LB

Type LBC

Furnished with gasket and blank sheet steel cover having end wedge-nuts‡.

Size In.	Cat. No.	List, Each
½	LB16	$0.90
¾	LB26	1.00
1	LB36	1.60
1¼	LB46	2.70
1½	LB56	3.90
2	LB666	6.70
2½	LB76	13.35

For driven grounds. Furnished with blank cast Feraloy cover and break neck locking screw. Hub at left in illustration is ½ inch.

Size In.	Cat. No.	List, Each
¾	LBC216	$1.40
1	LBC316	2.05
1¼	LBC416	2.85

*For any wiring arrangement differing from those listed, information will be furnished upon request.

‡Sheet steel covers with break neck locking screws can be furnished at no additional charge; add suffix S7.

CROUSE-HINDS SERVICE ENTRANCE CONDUIT FITTINGS

FOR THICK-WALL AND THIN-WALL CONDUIT

Type FBM

Furnished with composition cover for 2, 3 or 4-wire service, and 2 mounting screws.

Type FBM

Size In.	Threaded Thick Wall Conduit Without Sealing Compound Cat. No.	Price Each	With Sealing Compound Cat. No.	Price Each
½	FBM-145	$0.90	FBM-146	$0.95
	Threadless Thin Wall Conduit			
½	145-MT	1.45	146-MT	1.60

FOR THREADED HEAVY WALL CONDUIT

Types FBA and FBB End Fittings furnished with composition cover for 2, 3, or 4-wire service. Type LBY Elbows furnished with cast screw cover.

Type FBA

Type FBB

Type LBY

Size In.	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
½	FBA1	$0.60	FBB1	$0.75	LBY1	$0.75
¾	FBA2	.65	FBB2	.80	LBY2	.95
1	FBA3	.90	FBB3	1.10	LBY3	1.20
1¼	FBA4	1.95	FBB4	2.50	LBY4	3.20
1½	--------	--------	--------	--------	LBY5	4.45

TYPE CGY SERVICE ENTRANCE CONNECTORS

2-Screw Compression Clamp Type

This connector meets the requirements of watertightness and resistance to corrosion, the two most important requirements of a service entrance cable connector.

Screws are reversible which means they may be threaded in from either direction, making heads accessible under all conditions of installation.

Made of non-ferrous, corrosion-resistant alloy, with heavily-plated steel clamping screws.

Round Cable—Single Conductor

Types SE (Armored or Unarmored) and SD Cable, Bare Neutral

Cat. No.	List Each	Conductors Size Insulated	Conductors *Size Uninsulated	Size Thrd. Nipple In.	No. of Cap
CGY2292	$0.60	10	10	¾	FEE8
CGY3292	.70	10	10	1	FEE8
CGY2282†	.60	8	8†	¾	FEE8
CGY3412†	.70	8	8†	1	FEE8
CGY2282	.60	6	8	¾	FEE8
CGY3412	.70	6	8	1	FEE8
CGY2272	.60	6	6	¾	FEE8
CGY3422	.70	6	6	1	FEE8
CGY2242	.60	4	6	¾	FEE4
CGY2242	.60	4	4	¾	FEE4
Oval Cable—2 Conductor					
CGY2412	.60	12	12	¾	FEE8
CGY2352	.60	8 or 10	10 or 8	¾	FEE8
CGY3402	.70	8	8	1	FEE8
CGY3352	.70	6	8 or 6	1	FEE4
CGY3232	.70	4	4 or 6	1	FEE2

*Neutral concentric conductor.

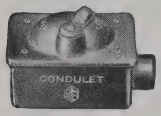
†For two No. 8 round cable without internal steel tape armor, CGY2292 or CGY3292 will, with some makes of cable, produce a better fit.

CROUSE-HINDS CONDULET EQUIPMENT

For REA Rural Electrification Wiring

Type VRA		Type VRB		Type VRO		Type VR	
Lamp Watts	Cat. No.	List Each	Lamp Watts	Cat. No.	List Each		
25—100	VRA110	$3.30	25—100	VRO410	$3.20		
25—100	VRB110	5.70	.....	VR10	1.60		

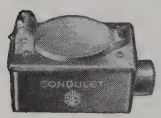
FS SERIES
Switch and Plug Receptacle Condulets

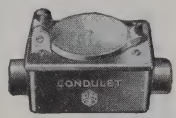


FS Series Switches

Type FS				Type FSC	
Cat. No.	List Each		Rating	Cat. No.	List Each
FS1311	$4.00	1-Pole	10 T.-125 V. 5 A.-250 V.	FSC1311	$4.20
FS1312	4.90	2-Pole	10 T.-125 V. 10 A.-250 V.	FSC1312	5.05
FS1313	4.20	3-Way	10 T.-125 V. 5 A.-250 V.	FSC1313	4.35
FS1314	7.85	4-Way	5 T.-125 V. 2 A.-250 V.	FSC1314	8.00

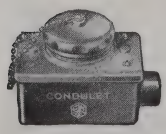
FS Series Plug Receptacles with Spring Door





Type FS			Type FSC	
Receptacle—15 Amp.-125 V.—10 Amp.-250 V.				
Cat. No.	List Each		Cat. No.	List Each
FS1514	$4.25	2-Wire, 2-Pole	FSC1514	$4.45
FS1515	4.60	2-Wire, 3-Pole	FSC1515	4.80
FS1516	4.80	3-Wire, 3-Pole	FSC1516	5.00

FS Series Plug Receptacles with Threaded Cap and Chain



Type FS			Type FSC	
Receptacle—15 Amp.-125 V.—10 Amp.-250 V.				
Cat. No.	List Each		Cat. No.	List Each
FS1614	$4.70	2-Wire, 2-Pole	FSC1614	$4.90
FS1615	5.80	2-Wire, 3-Pole	FSC1615	5.95
FS1616	5.95	3-Wire, 3-Pole	FSC1616	6.15

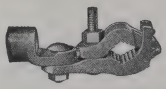
GROUNDULET SAFETY CIRCUIT EQUIPMENT

TYPE GCH

For use where conduit is employed to protect the grounding conductor. Grounding conductor is connected to conduit-hub part by swivel bolt. Conduit can be brought in from any angle. Malleable.

For Threaded Heavy Wall Conduit

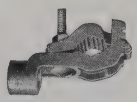
With Swivel Feature



Size, Inches					
Conduit	Water Pipe	O.D. Grounding Electrode	Cat. No.	List Each	
½	½–1	½–1	GCH1	$1.80	

Type GCH for Threaded Heavy Wall Conduit

Without Swivel Feature



Size, Inches				
Water Pipe	O.D. Grounding Electrode	Cat. No.	List Each	
½ to 1	½ to 1	GCH13	$1.80	

Type GCH with Clamp Connection for Ground Conductor

For Nos. 8, 6, or 4 Armored or Unarmored Ground Conductor

In this type the grounding conductor passes through the bolt and is clamped between the under side of bolthead and upper face of square cavity. A set screw holds armor in place and effectively grounds it to clamp. Malleable.

Size, Inches				
Water Pipe	O.D. Grounding Electrode	Cat. No.	List Each	
½ to 1	½ to 1	GCH08	$1.80	
1 to 2	1 to 2	GCH086	3.10	
For Nos. 8, 6, or 4 Armored or Unarmored Ground Conductor and No. 2 Solid Copper Wire				
½ to 1	½ to 1	GCH91	1.60	

TYPE GCE STRAP CLAMP TERMINALS

Size, Inches				
Water Pipe	Grounding Electrode	Cat. No.	List Each	
½ to 2	⅝ to 1	GCE012	$1.50	
½ to 4	⅝ to 1	GCE014	1.70	
½ to 6	⅝ to 1	GCE016	1.90	

TYPE GC STRAP CLAMPS

For bonding and grounding equipment in interior wiring systems.

Cat. No.	Material	List Each
GC101	Steel	$0.45
GC102	Brass	.95

TYPE GC GROUNDING STRAPS

For bonding and grounding equipment in interior wiring systems.

Flexible Copper, tinned.

Cat. No.		Each Per Coil
GC100	1 to 10 Coils of 50 ft.	$43.00
GC100	11 to 25 Coils of 50 ft.	39.00
GC100	26 to 50 Coils of 50 ft.	37.00
GC100	51 or More Coils of 50 ft.	36.00

CROUSE-HINDS EXPLOSION-PROOF EQUIPMENT

Locations which are hazardous because of the presence of explosive atmospheres require different electrical wiring and apparatus than locations in which such hazards do not exist. Explosive atmospheres may exist because of the presence of gases such as hydrogen, natural and manufactured gas, ethylene, butane and cyclopropane and vapors of gasoline, ethyl, ether, acetone, alcohol and lacquer solvents.

Many dusts when thrown into the air create explosive atmospheres. Among the more common dusts are those of certain metals, notably aluminum and magnesium; those of carbon black, coal and coke. All of the foregoing dusts have the further hazard of being electrically conductive; therefore, they must be prevented from being deposited on live parts of electrical apparatus where they would form short circuits and consequent explosions.

Dusts of all cereals, because of their lightness and highly combustible natures, form atmospheres which when ignited explode with great violence.

In addition to the flammable gases, vapors and combustible dusts, are easily ignitible fibers, which, while they do not create explosive atmospheres, they do introduce the danger of flash fires which are near explosive in violence.

In all of the above locations, fires from electrical causes may occur because of exposed arcs, flames, sparks or particles of burning material escaping from enclosures. Also, apparatus operating at temperatures sufficient to ignite the gas, vapor, dust or fibers may be the cause.

Because of this necessity for preventing these causes of ignition, electrical apparatus for hazardous locations is constructed differently from corresponding apparatus intended for ordinary locations.

Article 500 of the National Electrical Code is devoted exclusively to locations deemed hazardous because of the expected continual or occasional presence of explosive gases, vapors, combustible dusts and easily ignitible fibers.

In the Code these locations are classified substantially as follows:

Class I—Locations hazardous because of dangerous concentrations of flammable gases or vapors.

Class II—Locations hazardous because combustible dusts may be present in the atmosphere in dangerous amounts.

Class III—Locations in which easily ignitible fibers are present in sufficient quantities to create a hazardous condition.

All of these classes are divided into two divisions. In general, Division 1 includes localities where the hazardous material is used or processed, while Division 2 includes localities of lesser hazard such as storage areas or where dangerous conditions are not likely to exist because of other precautions.

For details, Article 500 of the Code should be consulted. Only general statements can be made here.

In locations where the danger is due to flammable gases or vapors (Class I) the Code requires explosion-proof equipment. This does not mean vaportight.

Explosion-proof equipment is designed on the supposition that the enclosure will become filled with the explosive mixture. To be explosion-proof, then the enclosure must be strong enough to withstand an explosion of the trapped gas or vapor mixture.

Furthermore, all joints in explosion-proof enclosures must prevent the issuance of flames. In addition, these devices must operate at temperatures which will not ignite the surrounding atmosphere.

Vaportight equipment is not built to meet the conditions above stated and is not safe for use in Class I locations.

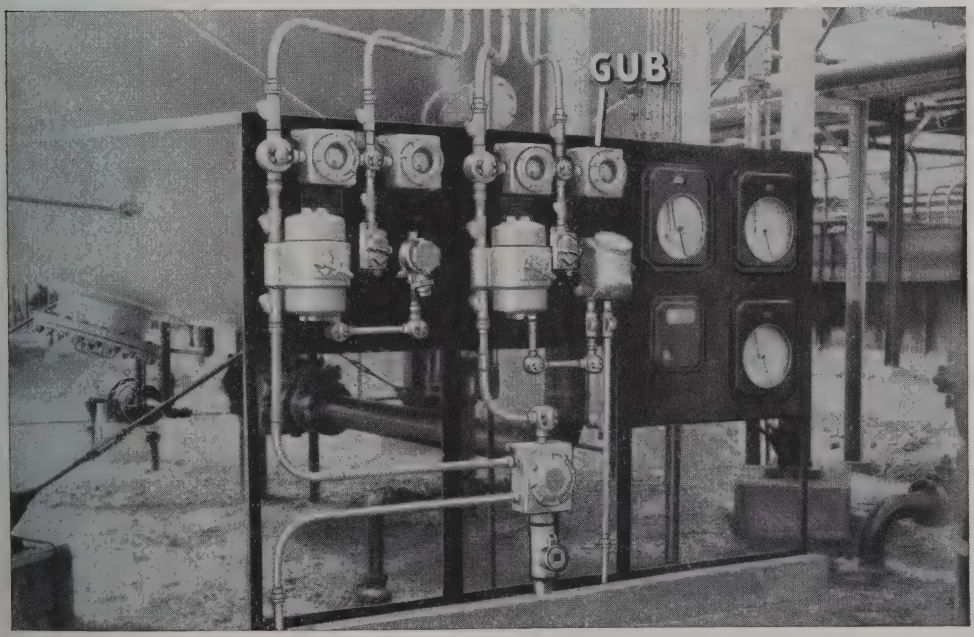
In Class II locations the Code requires enclosures to be dust-tight. Enclosures intended for ordinary non-hazardous locations are not dust-tight and should not be used where the Code specifically requires dust-tight construction.

Apparatus such as motors and lighting units, which operate at appreciable temperatures, must be designed so as not to reach dangerous temperatures even when blanketed by heavy deposits of dusts. Ordinary vaporproof fixtures do not have sufficient radiating ability to make them acceptable for use where combustible dusts are likely to collect on them.

Condulets intended for use in hazardous locations are manufactured to the exacting standards of the Underwriters' Laboratories, Inc. Conformity with those standards is assured by careful design, workmanship and inspection.

The Condulet line is so complete that there is never any difficulty in choosing the proper Condulet for a particular purpose.

An installation of Crouse-Hinds Explosion-Proof Equipment

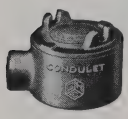


CROUSE-HINDS CONDULETS

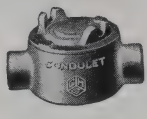
GUA SERIES JUNCTION CONDULETS

Explosion-Proof and Dust-Tight, and Weather Resistant (Raintight)

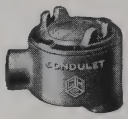
Class I, Groups C and D; Class II, Groups E, F, and G and Class III



Type GUA



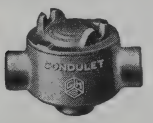
Type GUAC



Type GUAB

Furnished with surface covers, but can be furnished without covers or with flush, sealing or nipple covers, or fixture canopies.

With Threaded Hubs Cat. No.	List Each	Hub Size In.	Nom. Diam. Cover Open., In.	Outside Dimen. of Body, In. Diam.	Dpth.	With Union Hubs Cat. No.	List Each
Type GUA							
GUA14	**$2.90**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUA645**	**$3.00**
GUA24	**3.00**	¾	2	2½	2½	**GUA745**	**3.60**
GUA16	**3.60**	½	3	3½	2	.....	.....
GUA26	**3.70**	¾	3	3½	2	**GUA765**	**4.30**
GUA36	**3.80**	1	3	3½	2 5/16	**GUA865**	**4.80**
GUA47	**6.30**	1¼	3⅝	4¼	2 11/16	.....	.....
Type GUAC							
GUAC14	**$3.10**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAC645**	**$4.50**
GUAC24	**3.30**	¾	2	2½	2½	**GUAC745**	**4.50**
GUAC16	**3.80**	½	3	3½	2	.....	.....
GUAC26	**4.00**	¾	3	3½	2	**GUAC765**	**5.20**
GUAC36	**4.20**	1	3	3½	2 5/16	**GUAC865**	**6.20**
GUAC47	**6.80**	1¼	3⅝	4¼	2 11/16	.....	.....
GUAC59	**14.20**	1½	5	5¾	3¾	.....	.....
Type GUAB							
GUAB14	**$3.10**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAB645**	**$4.50**
GUAB24	**3.30**	¾	2	2½	2	**GUAB745**	**4.50**
GUAB16	**3.80**	½	3	3½	2	**GUAB665**	**5.20**
GUAB26	**4.00**	¾	3	3½	2	**GUAB765**	**5.20**
GUAB36	**4.20**	1	3	3½	2 5/16	.....	.....
GUAB47	**6.80**	1¼	3⅝	4¼	2 11/16	.....	.....
GUAB59	**14.20**	1½	5	5¾	3¾	.....	.....



Type GUAD

Type GUAL

With Threaded Hubs Cat. No.	List Each	Hub Size In.	Nom. Diam. Cover Open., In.	Outside Dimen. of Body, In. Diam.	Dpth.	With Union Hubs Cat. No.	List Each
Type GUAD							
GUAD14	**$3.30**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAD645**	**$5.40**
GUAD24	**3.60**	¾	2	2½	2½	**GUAD745**	**5.40**
GUAD16	**4.00**	½	3	3½	2	**GUAD665**	**6.10**
GUAD26	**4.30**	¾	3	3½	2	**GUAD765**	**6.10**
GUAD36	**4.50**	1	3	3½	2 5/16	.....	.....
Type GUAL							
GUAL14	**$3.10**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAL645**	**$4.50**
GUAL24	**3.30**	¾	2	2½	2½	**GUAL745**	**4.50**
GUAL16	**3.80**	½	3	3½	2	.....	.....
GUAL26	**4.00**	¾	3	3½	2	.....	.....
GUAL36	**4.20**	1	3	3½	2 5/16	**GUAL865**	**6.20**
GUAL47	**6.80**	1¼	3⅝	4¼	2 11/16	.....	.....
GUAL59	**14.20**	1½	5	5¾	3¾	.....	.....

Prices for combinations of threaded and union hubs upon request.

CROUSE-HINDS CONDULETS

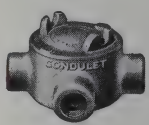
GUA SERIES JUNCTION CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Groups C and D; Class II, Groups E, F, and G and Class III

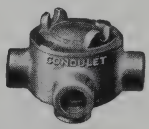
Furnished with surface covers, but can be furnished without covers or with flush, sealing or nipple covers, or fixture canopies.

Type GUAN



Type GUAT

With Threaded Hubs Cat. No.	List Each	Hub Size In.	Nom. Diam. Cover Open., In.	Outside Dimen. of Body, In. Diam.	Dpth.	With Union Hubs Cat. No.	List Each
Type GUAN							
GUAN14	**$3.10**	½	2	2½	2⅛	.....	.....
.....	.....	½	2	2½	2	**GUAN645**	**$4.50**
GUAN24	**3.30**	¾	2	2½	2 5/16	**GUAN745**	**4.50**
GUAN26	**4.00**	¾	3	3½	2	.....	.....
GUAN36	**4.20**	1	3	3½	2 5/16	**GUAN865**	**6.20**
GUAN47	**6.80**	1¼	3⅝	4¼	2 11/16	.....	.....
Type GUAT							
GUAT14	**$3.30**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAT645**	**$5.40**
GUAT24	**3.60**	¾	2	2½	2½	**GUAT745**	**5.40**
GUAT16	**4.00**	½	3	3½	2	**GUAT665**	**6.10**
GUAT26	**4.30**	¾	3	3½	2	**GUAT765**	**6.10**
GUAT37	**7.00**	1	3⅝	4¼	2 5/16	**GUAT875**	**10.00**
GUAT49	**14.50**	1¼	5	5¾	3¾	**GUAT995**	**22.00**



Type GUAW

Type GUAX

With Threaded Hubs Cat. No.	List Each	Hub Size In.	Nom. Diam. Cover Open., In.	Outside Dimen. of Body, In. Diam.	Dpth.	With Union Hubs Cat. No.	List Each
Type GUAW							
GUAW14	**$3.50**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAW645**	**$6.30**
GUAW24	**3.90**	¾	2	2½	2½	**GUAW745**	**6.30**
GUAW16	**4.20**	½	3	3½	2	**GUAW665**	**7.00**
GUAW26	**4.60**	¾	3	3½	2	**GUAW765**	**7.00**
Type GUAX							
GUAX14	**$3.50**	½	2	2½	2¼	.....	.....
.....	.....	½	2	2½	2	**GUAX645**	**$6.30**
GUAX24	**3.90**	¾	2	2½	2½	**GUAX745**	**6.30**
GUAX16	**4.20**	½	3	3½	2	**GUAX665**	**7.00**
GUAX26	**4.60**	¾	3	3½	2	**GUAX765**	**7.00**
GUAX37	**7.40**	1	3⅝	4¼	2 5/16	**GUAX875**	**11.40**
GUAX49	**15.00**	1¼	5	5¾	3¾	**GUAX995**	**25.00**

Prices for combinations of threaded and union hubs upon request.

CROUSE-HINDS CONDULETS

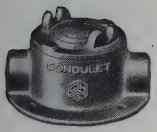
GUF SERIES JUNCTION CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Groups C and D; Class II, Groups E, F, and G and Class III

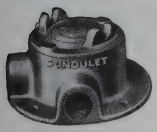
Furnished with surface cover and threaded hubs.

Type GUFC



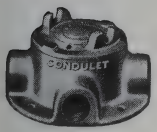
Hub Size In.	Cover Opening In.	Cat. No.	List Each
½	3	GUFC16	$4.60
¾	3	GUFC26	4.80
1	3	GUFC36	5.20
1	5	GUFC39	15.50

Type GUFL



½	3	GUFL16	$4.60
¾	3	GUFL26	4.80
1	3	GUFL36	5.20
1	5	GUFL39	15.50

Type GUFT



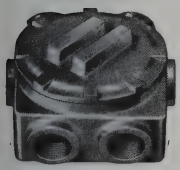
½	3	GUFT16	$5.00
¾	3	GUFT26	5.20
1	3	GUFT36	5.60
1	5	GUFT39	15.90

Type GUFX

½	3	GUFX16	$5.40
¾	3	GUFX26	5.60
1	3	GUFX36	6.00
1	5	GUFX39	16.30

TYPE GUP JUNCTION CONDULETS

Explosion-Proof and Dust-Tight



Especially suitable for gasoline pump installations that are to be rewired to comply with the new inspection requirements for hazardous locations.

Hubs tapped for ¾-inch conduit. Cover opening, 3⅝ inches in diameter.

2 in Top—1 in Each Side 2 in Bottom—None in Back (With 3 Pipe Plugs)			2 in Top—1 in Each Side 2 in Bottom—4 in Back (With 7 Pipe Plugs)		
No.	Hubs	Each	No.	Hubs	Each
GUP215	6	$5.40	GUP214	10	$5.80

Dimensions of body, exclusive of hubs: Length, 4⅛ inches; width, 4⅛ inches; depth, 2½ inches.

CROUSE-HINDS CONDULETS

GUA SERIES

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Groups C and D; Class II, Groups E, F, and G; and Class III

Type GUA

Type GUAC

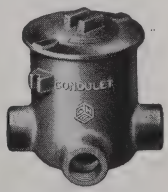
Furnished with threaded, flush covers. Have nailing lugs for concealed conduit installations, particularly in concrete construction.

Dimensions of Body

Cat. No.	List Each	Outside Depth	Inside Depth Below Cover Thrds.	Size Hub	Cat. No.	List Each
GUA1620	$3.40	2	1⅛	½	GUAC1620	$3.60
GUA2620	3.60	2	1⅛	¾	GUAC2620	3.80
GUA3620	3.80	2 5/16	1 7/16	1	GUAC3620	4.00
GUA1630	3.80	3	2⅛	½	GUAC1630	4.00
GUA2630	4.00	3	2⅛	¾	GUAC2630	4.20
GUA1640	4.30	4	3⅛	½	GUAC1640	4.50
GUA2640	4.50	4	3⅛	¾	GUAC2640	4.70

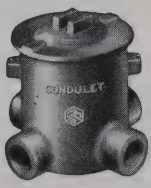
Type GUAL

Type GUAT



GUAL1620	$3.60	2	1⅛	½	GUAT1620	$3.80
GUAL2620	3.80	2	1⅛	¾	GUAT2620	4.00
GUAL3620	4.00	2 5/16	1 7/16	1	GUAT3620	4.20
GUAL1630	4.00	3	2⅛	½	GUAT1630	4.20
GUAL2630	4.20	3	2⅛	¾	GUAT2630	4.40
GUAL1640	4.50	4	3⅛	½	GUAT1640	4.70
GUAL2640	4.70	4	3⅛	¾	GUAT2640	4.90

Type GUAX



2	1⅛	½	GUAX1620	4.00
2	1⅛	¾	GUAX2620	4.20
2 5/16	1 7/16	1	GUAX3620	4.40
3	2⅛	½	GUAX1630	4.40
3	2⅛	¾	GUAX2630	4.60
3	2⅛	1	GUAX3630	4.80
4	3⅛	½	GUAX1640	4.90
4	3⅛	¾	GUAX2640	5.10
4	3⅛	1	GUAX3640	5.30

One-inch hub arrangements other than those listed above, may be obtained by using one-inch GUAX Condulets with type PLG pipe plugs.

CROUSE-HINDS CONDULETS

GUJ SERIES JUNCTION CONDULETS

Explosion-Proof and Dust-Tight

Type GUJ

Type GUJC

Type GUJL

Hub Size	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
½	GUJ16	$3.60	GUJC16	$3.80	GUJL16	$3.80
¾	GUJ26	3.70	GUJC26	4.00	GUJL26	4.00
1	GUJ36	3.80	GUJC36	4.20	GUJL36	4.20

Type GUJB

Type GUJT

Type GUJX

Hub Size	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
½	GUJB16	$3.80	GUJT16	$4.00	GUJX16	$4.20
¾	GUJB26	4.00	GUJT26	4.30	GUJX26	4.60
1	GUJB36	4.20	GUJT36	4.60	GUJX36	5.00

THREADED COVERS

Flat Cover

Dome Cover

Fixture Cover Union Hub Type

Cat. No.	List Each	Cat. No.	Depth In.	List Each	Cat. No.	Fix. Stem, In.	List Each
GUJ06	$1.50	GUJ0611	1	$1.80	GUJ0686	½	$5.50
		GUJ0612	2	2.20	GUJ0687	¾	5.50

UNION HUB NUTS AND SLEEVES

For GUA Series Condulets Without Nuts and Sleeves

Cat. No.	List Each	Nut In.	Sleeve In.	Cat. No.	List Each	Nut In.	Sleeve In.
GUH-				GUH-			
215	$0.50	¾	½	525	$2.50	1½	¾
25	.50	¾	¾	55	2.50	1½	1½
315	.70	1	½	635	4.50	2	1
325	.70	1	¾	65	4.50	2	2
35	.70	1	1	75	6.50	2½	2½
425	1.50	1¼	¾	85	8.50	3	3
45	1.50	1¼	1¼	-----	--------	-----	-----

Threaded Blank Caps

Cat. No.	List Each	Nut In.	Sleeve In.	Cat. No.	List Each	Nut In.	Sleeve In.
GUH-				GUH-			
20	$0.30	¾	-----	30	$0.40	1	-----

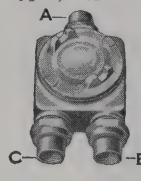
CROUSE-HINDS CONDULETS

GUA SERIES JUNCTION CONDULETS

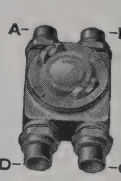
With Union Hubs

Explosion-Proof and Dust-Tight

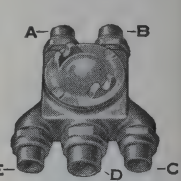
Outside dimensions of body: length, 3¾ inches; depth, 1⅛ inches at corners, 3⅛ inches over covers; nominal diameter of cover opening, 3 inches. Width, type GUAQ, 5⅝ inches; other types, 3¾ inches.



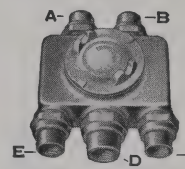
Type GUAG



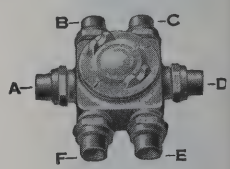
Type GUAH



Type GUAP



Type GUAQ



Type GUAF

Type GUAG

Hub Sizes (Inches) A B C	Without Nuts and Sleeves No.	Without Nuts and Sleeves Each	With Nuts and Sleeves No.	With Nuts and Sleeves Each
½-½-½			GUAG-	
¾-¾-¾			6665	$7.00
½-¾-¾			7775	7.00
¾-½-½	GUAG706	$5.50	6775	7.00
½-¾-½			7665	7.00
			6765	7.00

Type GUAH

A B C D				
½-½-½-½			GUAH-	
¾-¾-¾-¾			66665	$7.90
½-½-¾-¾	GUAH706	$5.90	77775	7.90
½-½-¾-½			66775	7.90
			66765	7.90

Type GUAP

A B C D E				
½-½- ½- ¾- ½			GUAP-	
½-½- ½-1 - ½			666765	$8.80
½-½- ¾- ¾- ¾			666865	8.80
½-½- ¾-1 - ¾	*GUAP706	$6.30	667775	8.80
¾-¾- ¾- ¾- ¾			667875	8.80
¾-¾- ¾-1 - ¾			777775	8.80
½-½-1 -1 -1	†GUAP7806	6.70	777875	8.80
¾-¾-1 -1 -1			668885	9.80
			778885	9.80

Type GUAQ

A B C D E				
½-½-½- ¾-½			GUAQ-	
½-½-½-1 -½			666765	$9.90
½-½-¾- ¾-¾			666865	9.90
½-½-¾-1 -¾	*GUAQ706	$7.40	667775	9.90
¾-¾-¾- ¾-¾			667875	9.90
¾-¾-¾-1 -¾			777775	9.90
			777875	9.90

Type GUAF

A B C D E F				
½-½-½-½-½-½			GUAF-	
½-¾-¾-½-¾-¾			6666665	$10.80
½-½-½-½-¾-¾	GUAF706	$7.80	6776775	10.80
¾-¾-¾-¾-¾-¾			6666775	10.80
¾-½-½-¾-½-½			7777775	10.80
¾-½-½-¾-¾-¾			7667665	10.80
			7667775	10.80

*The D hub requires the use of a 1-inch nut for ½, ¾, and 1-inch sleeve.

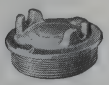
†The C, D and E hubs require the use of a 1-inch nut for ½, ¾, and 1-inch sleeve.

CROUSE-HINDS CONDULETS

THREADED COVERS, CANOPIES AND ADAPTERS

For GUA and GUF Series Condulets

Used interchangeably on Condulets of GUA and GUF series.



In. Diam. Open.	Surface Covers Cat. No.	List Each	Flush Covers Cat. No.	List Each	Sealing Covers Cat. No.	List Each
2	GUA04	$1.30	GUA049	$1.30	GUA041	$1.60
3	GUA06	1.50	GUA069	1.50	GUA062	2.00
3⅝	GUA07	2.20	GUA079	2.20	GUA072	2.60
5	GUA09	6.70	GUA099	6.70	GUA092	7.50

In. Diam. Open.	In. Fix. Stem	Fixture Canopies Cat. No.	List Each	Fixture Covers Cat. No.	List Each
3	½	GUA0618	$7.00	GUA0686	$5.50
3	¾	GUA068	7.00	GUA0687	5.50
3	1¼	GUA0684	7.00	----------	--------
5	1¼	GUA098	12.20	----------	--------

In. Diam. Open.	In. Fix. Stem	Nipple Covers Cat. No.	List Each	In. Diam. Open.	Adapters Cat. No.	List Each
2	½	GUA0471	$2.40	3-3⅝	GUA0760	$3.10
3	½	GUA0671	3.10			
3	¾	GUA0672	3.50			

TYPE GUA EXTENSION

For flush mounted GUA and GUF series with 3-inch cover opening to make one or more exposed extensions. Furnished with 3 pipe plugs.

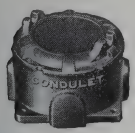
Size	Cat. No.	List Each
½	GUAX166	$4.40
¾	GUAX266	4.40

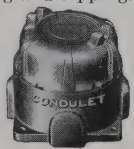
TYPE EJH JUNCTION CONDULETS

For Pulling In or Splicing Conductors
Explosion-Proof and Dust-Tight

The Conduit body has four bosses located 90° apart around the sides and one boss in the center back. These bosses can be drilled and tapped for ½ inch or ¾ inch conduit.

When ordering include sketch showing location of holes to be drilled and tapped and size desired. Price of Condulet includes drilling and tapping.



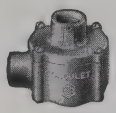


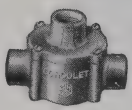
Inside Depth	Cat. No.	List Each
With Flat Cover		
2 5/32	EJH50	$16.00
With 2¼-Inch Dome Cover		
4⅜	EJH52	17.60
With 1¼-Inch Dome Cover		
3 7/16	EJH51	$16.80
With 3¼-Inch Dome Cover		
5 7/16	EJH53	18.50
With 5-Inch Dome Cover		
7 7/16	EJH55	19.80

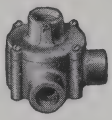
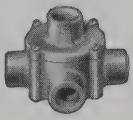
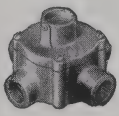
CROUSE-HINDS CONDULETS

CPS SERIES JUNCTION CONDULETS

Explosion-Proof and Dust-Tight
Furnished with Hub Cover

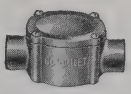


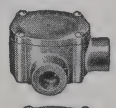
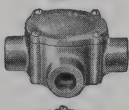
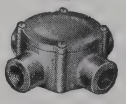


Size Hub Conduit	Size Hub Cover	Form 10 Cat. No.	Form 10 List Each	Form 20 Cat. No.	Form 20 List Each
		Dead End			
		CPS-		CPS-	
½	½	10181	$2.80	10281	$4.50
¾	½	20181	2.90	20281	4.60
¾	¾	20182	3.00	20282	4.70
1	½	30181	3.00	30281	4.70
1	¾	30182	3.10	30282	4.80
		Through Feed			
½	½	11181	$3.00	11281	$4.70
¾	½	21181	3.20	21281	4.90
¾	¾	21182	3.30	21282	5.00
1	½	31181	3.40	31281	5.10
1	¾	31182	3.50	31282	5.20
		Type L			
½	½	12181	$3.00	12281	$4.70
¾	½	22181	3.20	22281	4.90
¾	¾	22182	3.30	22282	5.00
1	½	32181	3.40	32281	5.10
1	¾	32182	3.50	32282	5.20
		Type T			
½	½	13181	$3.20	13281	$4.90
¾	½	23181	3.50	23281	5.20
¾	¾	23182	3.60	23282	5.30
1	½	33181	3.80	33281	5.50
1	¾	33182	3.90	33282	5.60
		Type X			
½	½	14181	$3.40	14281	$5.10
¾	½	24181	3.80	24281	5.50
¾	¾	24182	3.90	24282	5.60
1	½	34181	4.30	34281	5.90
1	¾	34182	4.40	34282	6.00

Furnished with Blank Covers



Size Hub	Form 10 Cat. No.	Form 10 List Each	Form 20 Cat. No.	Form 20 List Each
	Dead End			
	CPS-		CPS-	
½	10185	$2.50	10286	$4.20
¾	20185	2.60	20286	4.30
1	30185	2.70	30286	4.40
	Through Feed			
½	11185	$2.70	11286	$4.40
¾	21185	2.90	21286	4.60
1	31185	3.10	31286	4.80
	Type L			
½	12185	$2.70	12286	$4.40
¾	22185	2.90	22286	4.60
1	32185	3.10	32286	4.80
	Type T			
½	13185	$2.90	13286	$4.60
¾	23185	3.20	23286	4.90
1	33185	3.50	33286	5.20
	Type X			
½	14185	$3.10	14286	$4.80
¾	24185	3.50	24286	5.20
1	34185	3.90	34286	5.60

If specified on the order, CPS series Condulets will be furnished with fastening lugs at an advance of $0.20 in the list prices.

Outside dimensions of body, exclusive of hubs: Diameter — Form 10, 3½ inches. Form 20, 4⅝ inches. Depth — Form 10, 2½ inches; Form 20, 2 11/16 inches.

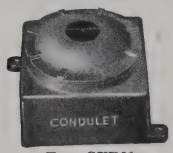
CROUSE-HINDS CONDULETS

UNIVERSAL JUNCTION CONDULETS

Explosion-Proof and Dust-Tight

Types GU, GUE, and GUB

These Condulets can be equipped with threaded or union hubs located as required. When ordering refer to information tables below and furnish a sketch showing the size, location and type of hubs required on each Condulet. Add price of hubs selected to price of Condulet. GU and GUE Condulets take CB1124, four-wire connection block.



Type GUB01

Type GU

Cat. No.	List Each	Overall Dimensions in Inches of Body — Including Cover — Width	Height	Depth	Diam. Cover Opening Inches
GU	$4.00	4⅛	4⅛	3 3/16	3⅝
GUE	5.50	4⅝	4⅝	4⅝	3⅝
GUB01	20.00	6½	7	5⅝	5½
GUB02	37.00	8	10	5⅝	7
GUB06	46.00	8½	10	6⅝	7
GUB03	90.00	11	12	9 5/16	9⅝

Symbol Numbers and Letters for Maximum Size Hubs That Can Be Used

No.	Type of Hub	On Top and Bottom 1	2	3	On Back 1	2
GU	Threaded	4	4	1	4	4
	Union	Y	Y	..	R	Y
GUE	Threaded	6	5	2	4	5
	Union	T	Y	W	R	R
GUB01	Threaded	7	6	4	10	7
	Union	U	S	Y	V	T
GUB02	Threaded	7	7	5	10	9
	Union	U	T	Y	V	V
GUB06	Threaded	8	7	5	10	9
	Union	V	T	Y	V	V
GUB03	Threaded	10	9	6	10	10
	Union	XD	V	S	XD	V

Threaded and Union Hubs

Inches	Threaded Symbol	Each	Union Symbol	Each
½	1	$1.20	W	$2.00
¾	2	1.30	X	2.00
1	3	1.50	Y	2.40
1¼	4	1.80	R	3.50
1½	5	2.30	S	6.00
2	6	3.00	T	8.00
2½	7	4.50	U	11.00
3	8	6.50	V	14.00
3½	9	9.00	WD	18.00
4	10	12.00	XD	22.00

Type GUB Dome Covers

In ordering dome covers for GUB Condulets deduct cost of the flat cover shown in listing below, from cost of complete Condulet selected from listing above — then add cost of the dome cover selected from listing below.

Body Size	Flat Cover No.	Each	Nominal Depth	Dome Cover No.	Each
			2	GUB712	$11.80
GUB01	GUB0101	$6.40	4	GUB714	13.40
			10	GUB7110	18.20
			3	GUB723	18.30
			6	GUB726	22.80
GUB02	GUB0102	$13.00	9	GUB729	27.30
GUB06			12	GUB7212	31.80
			17	GUB7217	39.30
			4	GUB734	22.80
			10	GUB738	33.00
GUB03	GUB0103	$18.60	12	GUB7311	36.40
GUB04			14	GUB7313	39.80
			17	GUB7316	44.90

CROUSE-HINDS CONDULETS

TYPE ESC PULL CONDULETS

For Pulling or Splicing Conductors

Explosion-Proof and Dust-Tight

Class I, Group D; and Classes II and III

For use in hazardous locations, and designed to afford a convenient opening in the conduit system for pulling or splicing conductors.

The body is cylindrical with a long and wide opening in the front between the threaded end portions.

Cat. No.	List Each	Overall Length, In. — Condulet Pulled Open	Opening Only	Size Hub In.
ESC1	$11.00	15⅞	6	½
ESC2	11.00	15⅞	6	¾
ESC3	20.50	23¾	10	1
ESC4	20.50	23¾	10	1¼
ESC5	39.00	37⅛	16	1½
ESC6	39.00	37⅛	16	2
ESC7	60.00	53 1/16	24	2½
ESC8	60.00	53 1/16	24	3
ESC9	130.00	84⅛	38	3½
ESC10	130.00	84⅛	38	4

TYPE LBH CONDULETS

For Pulling Cables

Explosion-Proof and Dust-Tight

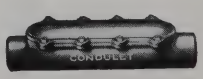
Particularly well suited for pulling large conductors or conductors that are stiff because of their lead sheathing. Especially useful at motor locations. Covers are domed, which provides room for an easy bend in the conductor, thus avoiding undue strain upon the insulation or lead sheath.

Cat. No.	List Each	Cover Opening	Overall Width Inches	Size Hub In.
LBH10	$5.60	4	2¾	½
LBH20	6.00	4	2¾	¾
LBH30	15.40	7	4	1
LBH40	16.00	7	4	1¼
LBH50	23.00	10	5	1½
LBH60	24.00	10	5	2
LBH70	50.00	14	6⅝	2½
LBH80	51.20	14	6⅝	3

TYPE EKC CONDULETS

Explosion-Proof and Dust-Tight

Class I, Group D; Class II, Groups E, F, and G; and Class III EKC30, 40, 50, and 60 are also suitable for Class I, Group C locations

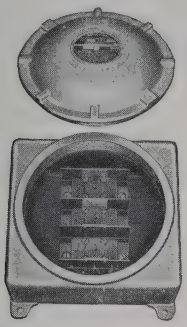


Size Hubs	Cat. No.	List Each
1	EKC30	$15.40
1¼	EKC40	16.00
1½	EKC50	23.00
2	EKC60	24.00
2½	EKC70	50.00
3	EKC80	51.20

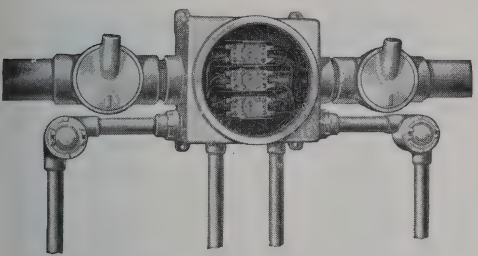
CROUSE-HINDS EJB AND GUB JUNCTION CONDULETS WITH TERMINAL BLOCKS

Explosion-Proof, Dust-Tight

Class I, Group D; Class II, Groups E, F, and G; and Class III

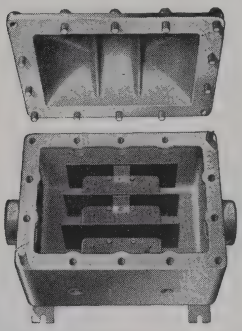


GUB036 and GUB039 Without Hubs Cover Removed Showing Terminal Block



GUB036 with Main and Branch Conduits and Wires in Place for Motor Control Panel Assembly (Motor Controls Not Shown)

Use: The EJB and GUB explosion-proof and dust-tight junction Condulets with terminal blocks provide convenient means for making taps of branch circuits from main feeders.



EJB1184 and EJB1185 with Main Hubs and Branch Tapping; Cover Removed Showing Terminal Block

They are exceptionally useful in making up explosion-proof bus assemblies for group of motor starters, branch circuit breakers, or combination starters and breakers. One such junction Condulet provides a means of tapping the main feeders to accommodate up to ten branch circuits.

One compact EJB or GUB junction Condulet with terminal block takes the place of one or more large junction boxes at as little as one-third the cost.

Design: These Condulets are standard types EJB and GUB, listed elsewhere in this section, except that they are provided with terminal blocks.

The blocks are equipped with heavy duty cast copper alloy pressure connectors for the main feeders. They are so arranged that the main cables may be pulled through unbroken and need only be skinned where they are clamped between halves of the pressure connectors.

The upper half or top clamp of each main pressure connector is arranged for attachment of standard branch circuit wire lugs.

Basic Condulet	Range of Main Pressure Terminals	Maximum Number per Terminal and Range of Branch Lugs*	Condulet Without Hubs With Terminal Block† Cat. No.	Condulet Without Hubs With Terminal Block† List, each	Terminal Block Only Cat. No.	Terminal Block Only List, each
3-Wire						
GUB06	#4 to #/0	Four #4 stranded to #/0 or Ten #14 solid to #4 stranded	**GUB061**	**$ 91.00**	**CB220**	**$ 35.00**
	#/00 to 250 MCM		**GUB062**	**$ 91.00**	**CB221**	**$ 35.00**
GUB03	#/0 to #/0000	Two #/0 to #/0000 or Four #4 stranded to #/0 or Ten #14 solid to #4 stranded	**GUB039**	**$130.00**	**CB84**	**$ 50.00**
	250 to 500 MCM		**GUB036**	**$130.00**	**CB86**	**$ 50.00**
EJB12168	#/0 to #/0000	Two #/0 to #/0000 or Four #4 stranded to #/0 or Ten #14 solid to #4 stranded	**EJB287**	**$230.00**	**CB84**	**$ 50.00**
	250 to 500 MCM		**EJB286**	**$230.00**	**CB86**	**$ 50.00**
	500 to 900 MCM	Four #/0 to #/0000 or Six #4 stranded to #/0 or Ten #14 solid to #4 stranded	**EJB1185**	**$280.00**	**CB343**	**$100.00**
	1000 to 1250 MCM		**EJB1184**	**$280.00**	**CB344**	**$100.00**
4-Wire						
EJB12168	#/0 to #/0000	Two #/0 to #/0000 or Four #4 stranded to #/0 or Ten #14 solid to #4 stranded	**EJB290**	**$260.00**	**CB81**	**$ 80.00**
	250 to 500 MCM		**EJB289**	**$260.00**	**CB87**	**$ 80.00**

*Standard solder or solderless lugs can be used but these are not included in the list prices of the Condulets. They can be supplied and prices will be quoted on request.

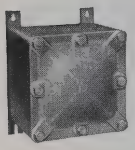
†Furnish sketch showing conduit arrangement required with order. Prices of hubs not included.

CROUSE-HINDS CONDULETS

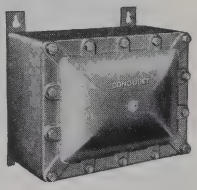
TYPE EJB JUNCTION CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

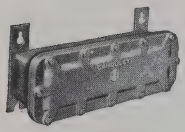
Class I, Group D; Class II, Groups E, F, and G; and Class III



Type EJB886



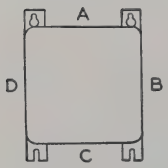
Type EJB12168 and EJB8138



Type EJB4164

Cat. No.	List, Each Without Hubs or Tapping	Size Inside Width	Size Inside Length	Size Inside Depth	Net Weight With Cover
EJB886	**$60.00**	8	8	6	82
EJB4164	**64.00**	4	16	4	68
EJB8138	**125.00**	8	13	8	170
EJB12168	**160.00**	12	16	8	230

Conduit Connection Information



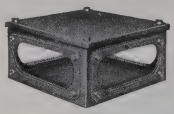
With mounting straps in vertical position, specify the number, size, and location of tapped holes or hubs required in each wall, starting with wall A and continuing clockwise with walls B, C, and D. Tapped holes or brazed hubs will be furnished at the following list prices:

Size Conduit	Tapped Holes	Brazed Hubs	Brazed Union Hubs
½	**$0.40**	**$1.20**	**$2.00**
¾	**.40**	**1.30**	**2.00**
1	**.70**	**1.50**	**2.40**
1¼	**.70**	**1.80**	**3.50**
1½	**1.00**	**2.30**	**6.00**
2	**1.00**	**3.00**	**8.00**
2½	**1.50***	**4.50**	**11.00**
3	**2.00***	**6.50**	**14.00**
3½	**3.00***	**9.00**	**18.00**
4	**4.00***	**12.00**	**22.00**

*Drilled and tapped openings of these sizes can be furnished only on 8x8 ends of the EJB8138.

CROUSE-HINDS CONDULETS

RS SERIES JUNCTION CONDULETS



Take conduit hub plates. Furnished with cast Feraloy cover, screws and gaskets for cover and hub plates.

Type	Approx. Inside Dimen. Inches	Cat. No.	List Each
RS	8½x8½x4	**RS1**	**$18.50**
RSM	8½x4½x4	**RSM1**	**15.70**
RSS	4½x4½x4	**RSS1**	**13.50**

RSP SERIES CONDUIT HUB PLATES

For RS Series Condulets

For 8½x4-Inch Sides of Types RS and RSM Condulets

Approximate outside dimensions, 8⅛x3½ inches. Cap screws and gaskets furnished with Condulet.

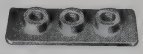
With One Hub

*Size Inches	Cat. No.	List Each
½	**RSP1**	**$2.00**
¾	**RSP2**	**2.10**
1	**RSP3**	**2.20**
1¼	**RSP4**	**2.30**
1½	**RSP5**	**2.40**
2	**RSP6**	**2.50**
2½	**RSP7**	**2.80**
3	**RSP8**	**3.30**
3½	**RSP9**	**3.80**

With Two Hubs

*Size Inches	Cat. No.	List Each
½-½	**RSP11**	**$2.20**
¾-¾	**RSP22**	**2.40**
1-½	**RSP31**	**2.60**
1-1	**RSP33**	**2.60**
1¼-¾	**RSP42**	**2.80**
1¼-1	**RSP43**	**3.00**
1¼-1¼	**RSP44**	**2.80**
1½-¾	**RSP52**	**3.10**
1½-1	**RSP53**	**3.10**
1½-1¼	**RSP54**	**3.10**
1½-1½	**RSP55**	**3.10**
2-¾	**RSP62**	**3.50**
2-1	**RSP63**	**3.50**
2-1¼	**RSP64**	**3.50**
2-1½	**RSP65**	**3.50**
2-2	**RSP66**	**3.50**
2½-1	**RSP73**	**3.90**

With Three Hubs



½-½-½	**RSP111**	**$2.40**
¾-¾-¾	**RSP222**	**2.70**
1-1-½	**RSP331**	**3.00**
1-1-1	**RSP333**	**3.00**
1¼-1¼-¾	**RSP442**	**3.30**
1¼-1¼-1¼	**RSP444**	**3.30**
1½-1½-1	**RSP553**	**3.80**
1½-1½-1½	**RSP555**	**3.80**

Blank

----------	**RSP0**	**$1.90**

*Sizes are given from left to right in illustrations.

RSMP SERIES CONDUIT HUB PLATES

For 4½x4-Inch Sides of Types RSM and RSS Condulets

Approximate outside dimensions, 3½x3½ inches. Cap screws and gaskets furnished with Condulet.

Size In.	Cat. No.	List Each
	With One Hub	
½	**RSMP1**	**$1.00**
¾	**RSMP2**	**1.10**
1	**RSMP3**	**1.20**
1¼	**RSMP4**	**1.30**
1½	**RSMP5**	**1.40**
2	**RSMP6**	**1.50**
2½	**RSMP7**	**1.80**
	With Two Hubs	
½–½	**RSMP11**	**$1.20**
¾–¾	**RSMP22**	**3.40**
	Blank	
----------	**RSMP0**	**$0.90**

CROUSE-HINDS UNIONS, CONNECTORS AND PLUGS

Explosion-Proof and Dust-Tight

Type UNY—Male

For connecting conduit to a Condulet.

Size Inches	Dimens., In. Length	Diam.	Cat. No.	List Each
½	2 7/16	1 13/16	UNY105	$1.00
*¾ to ½	2 1/16	1 3/4	UNY215	1.45
¾	2 1/16	1 3/4	UNY205	1.45
1	2 5/16	2 1/16	UNY305	2.50
1¼	2 11/16	2 13/16	UNY405	3.90
1½	3 1/16	3 1/16	UNY505	5.00
2	3 1/4	3 11/16	UNY605	6.40
2½	3 7/8	4 5/16	UNY705	10.10
3	4 5/16	5	UNY805	13.75
3½	5	5 1/2	UNY905	22.40
4	5	6 1/16	UNY1005	25.60

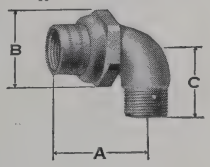
Type UNF—Female

For connecting conduit to conduit.

Size Inches	Dimens., In. Length	Diam.	Cat. No.	List Each
½	1 3/4	1 1/2	UNF105	$0.90
*¾ to ½	1 3/4	1 3/4	UNF215	1.25
¾	1 3/4	1 3/4	UNF205	1.25
1	1 13/16	2 1/16	UNF305	2.30
1¼	2	2 13/16	UNF405	3.50
1½	2 1/16	3 1/16	UNF505	4.55
2	2 1/16	3 11/16	UNF605	5.95
2½	2 7/8	4 5/16	UNF705	8.20
3	3 1/16	5	UNF805	11.85
3½	4	5 1/2	UNF905	18.75
4	4	6 1/16	UNF1005	21.95

Type UNL 90° Angle Unions

Explosion-Proof and Dust-Tight



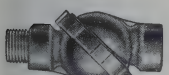
For connecting conduit to a Condulet.

Size Inches	Dimensions, Inches A	B	C	Cat. No.	List Each
*½ to ¾	2 3/16	1¾	1 7/16	UNL125	$2.80
*¾ to ½	2 5/16	1¾	1⅝	UNL215	2.80
¾ to ¾	2 5/16	1¾	1⅝	UNL205	2.80

*Size of right end is given first.

TYPE UNA CONNECTORS AND UNIONS

A convenient coupling or union for conduit joints made at angles from 90° to 180°. A single clamping nut provides a union feature as well as easy adjustment to required angles.



Box Connectors — Male

For use only if adjacent to a Condulet. Explosion-proof and dust-tight.

Size In.	Dimen., In. Lgth.	Wdth.	Cat. No.	List Each
½	4	2 11/32	UNA16	$4.20
¾	4½	2 27/32	UNA26	4.50
1	5¼	3 13/32	UNA36	4.80

Universal Unions — Female

½	3⅜	2 1/2	UNA1	$3.90
¾	3⅞	2 27/32	UNA2	4.20
1	4⅝	3 15/32	UNA3	4.50

TYPE PLG PIPE PLUGS

Recessed

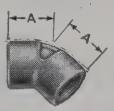
Square Head

Cat. No.	List Each	Size In.	Cat. No.	List Each
PLG1	$0.16	½	PLG15	$0.16
PLG2	.20	¾	PLG25	.20
PLG3	.24	1	PLG35	.24
PLG4	.30	1¼	PLG45	.30
PLG5	.40	1½	PLG55	.40
PLG6	.76	2	PLG65	.76
PLG7	1.20	2½	PLG75	1.20
PLG8	1.80	3	PLG85	1.80
----	----	3½	PLG95	2.40
----	----	4	PLG105	3.20

CROUSE-HINDS CONDULETS

TYPE EL CONDULET ELBOWS

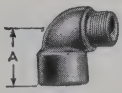
Explosion-Proof and Dust-Tight



45° Female

90° Male

90° Female



90° Male and Female

Size In.	Dimen. A In.	Cat. No.	List Each
	45° Female		
½	1 3/16	EL1	$0.40
¾	1 5/16	EL2	.50
1	1 5/8	EL3	.70
1¼	1 11/16	EL4	1.30
1½	2	EL5	1.50
2	2¼	EL6	2.40
2½	2¾	EL7	6.30
3	3	EL8	7.00
3½	3 9/16	EL9	9.90
4	3¾	EL10	11.10
	90° Male		
½	1½	EL195	$1.20
¾	1⅝	EL295	1.40
1	1⅞	EL395	1.70
1¼	2⅛	EL495	2.00
	90° Female		
½	1 7/16	EL19	$0.50
¾	1 9/16	EL29	.70
1	1 13/16	EL39	.90
1¼	2 1/16	EL49	1.50
1½	4	EL59	3.00
2	5	EL69	5.00
2½	6 7/16	EL79	9.50
	90° Male and Female		
½	1½	EL196	$1.20
¾	1⅝	EL296	1.40
1	1⅞	EL396	1.70
1¼	2⅛	EL496	2.00

TYPE EC FLEXIBLE COUPLINGS

Explosion-Proof, Dust-Tight and Watertight

Class I, Group D; and Classes II and III

For use in hazardous locations where it is necessary to employ flexible fittings, as at motor terminals. Provide a safe means of making connections. They are made to withstand explosion pressures and to provide ample mechanical and electrical protection.

Also watertight, and are, therefore, suitable for use in damp locations or under water, such as connections to underwater floodlights and fountain lights.

Type ECJ Type ECG Type ECH

Size In.	Two Female Nipples Cat. No.	Overall Length In.	One Female Nipple, One Male Nipple Cat. No.	Overall Length In.	Two Male Nipples Cat. No.	Overall Length In.	List Each
			4 Inches				
	ECJ-		ECG-		ECH-		
½	14	7	14	7	14	7	$9.50
¾	24	7	24	7	24	7	11.40
			10 Inches				
½	110	13	110	13	110	13	12.50
¾	210	13	210	13	210	13	15.60
1	310	14⅞	310	14 11/16	310	14½	27.00
			18 Inches				
½	118	21	118	21	118	21	16.50
¾	218	21	218	21	218	21	21.20
1	318	22⅞	318	22 11/16	318	22½	35.00
1¼	418	23½	418	23 5/8	418	23⅛	50.80
1½	518	23⅞	518	23⅝	518	23⅜	68.60
2	618	22⅞	618	22⅝	618	22⅜	88.00

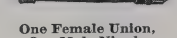
CROUSE-HINDS TYPE EC FLEXIBLE COUPLINGS—Continued

Size In.	Cat. No.	Overall Length In.	Cat. No.	Overall Length In.	Cat. No.	Overall Length In.	List Each
	ECJ-		ECG-		ECH-		
27 Inches							
½	127	30	127	30	127	30	$21.00
¾	227	30	227	30	227	30	27.50
1	327	31 7/8	327	31 11/16	327	31½	44.00
1¼	427	32½	427	32 5/16	427	32⅛	62.50
1½	527	32⅞	527	32⅝	527	32⅜	83.00
2	627	31⅞	627	31⅝	627	31⅜	106.00
36 Inches							
½	136	39	136	39	136	39	25.50
¾	236	39	236	39	236	39	33.80
1	336	40⅞	336	40 11/16	336	40½	53.00
1¼	436	41½	436	41 5/16	436	41⅛	74.20
1½	536	41⅞	536	41⅝	536	41⅜	97.40
2	636	40⅞	636	40⅝	636	40⅜	124.00

Type ECL

One Female Union, One Female Nipple

Type ECK



One Male Union, One Male Nipple

Size In.	Cat. No.	Overall Length In.	Cat. No.	Overall Length In.	List Each
4 Inches					
½	ECL14	7 21/32	ECK14	7 21/32	$10.30
¾	ECL24	7¾	ECK24	7¾	12.20
10 Inches					
½	ECL110	13 21/32	ECK110	13 21/32	13.30
¾	ECL210	13¾	ECK210	13¾	16.40
1	ECL310	15⅛	ECK310	14 13/16	29.00
18 Inches					
½	ECL118	21 21/32	ECK118	21 21/32	17.30
¾	ECL218	21¾	ECK218	21¾	22.00
1	ECL318	23⅛	ECK318	22 13/16	37.00
1¼	ECL418	23⅞	ECK418	23⅞	53.80
1½	ECL518	24 5/16	ECK518	24¼	72.10
2	ECL618	24⅛	ECK618	23 13/16	95.00
27 Inches					
½	ECL127	30 21/32	ECK127	30 21/32	21.80
¾	ECL227	30¾	ECK227	30¾	28.30
1	ECL327	32⅛	ECK327	31 13/16	46.00
1¼	ECL427	32⅞	ECK427	32⅞	65.50
1½	ECL527	33 5/16	ECK527	33¼	86.50
2	ECL627	33⅛	ECK627	32 13/16	113.00
36 Inches					
½	ECL136	39 21/32	ECK136	39 21/32	26.30
¾	ECL236	39¾	ECK236	39¾	34.60
1	ECL336	41⅛	ECK336	40 13/16	55.00
1¼	ECL436	41⅞	ECK436	41⅞	77.20
1½	ECL536	42 5/16	ECK536	42¼	100.90
2	ECL636	42⅛	ECK636	41 13/16	131.00

Also available in standard lengths of 6, 8, 12, 15, 21, 24, 30, and 33 inches.

CROUSE-HINDS REDUCERS AND CONNECTORS

THREADED CONDULET REDUCERS

Used to reduce Condulet hubs from larger to smaller sizes.

Size In.	Cat. No.	List Per 100	Size In.	Cat. No.	List Per 100
¼– ⅛	RE2818	$30.00	2½–2	RE76	$153.00
⅜– ⅛	RE3818	30.00	3 – ½	RE81	225.00
⅜– ¼	RE3828	30.00	3 – ¾	RE82	225.00
½– ⅛	RE1108	30.00	3 –1	RE83	225.00
½– ¼	RE1208	30.00	3 –1¼	RE84	225.00
½– ⅜	RE1308	21.60	3 –1½	RE85	225.00
¾– ½	RE21	14.25	3 –2	RE86	225.00
1 – ½	RE31	20.00	3 –2½	RE87	225.00
1 – ¾	RE32	20.00	3½– ½	RE91	280.00
1¼– ½	RE41	32.00	3½– ¾	RE92	280.00
1¼– ¾	RE42	32.00	3½–1	RE93	280.00
1¼–1	RE43	32.00	3½–1¼	RE94	280.00
1½– ½	RE51	53.00	3½–1½	RE95	280.00
1½– ¾	RE52	53.00	3½–2	RE96	280.00
1½–1	RE53	53.00	3½–2½	RE97	280.00
1½–1¼	RE54	53.00	3½–3	RE98	280.00
2 – ½	RE61	114.00	4 – ½	RE101	525.00
2 – ¾	RE62	114.00	4 – ¾	RE102	525.00
2 –1	RE63	114.00	4 –1	RE103	525.00
2 –1¼	RE64	114.00	4 –1¼	RE104	525.00
2 –1½	RE65	114.00	4 –1½	RE105	525.00
2½– ½	RE71	153.00	4 –2	RE106	525.00
2½– ¾	RE72	153.00	4 –2½	RE107	525.00
2½–1	RE73	153.00	4 –3	RE108	525.00
2½–1¼	RE74	153.00	4 –3½	RE109	525.00
2½–1½	RE75	153.00	----------	----------	----------

TYPE CGB CONNECTORS

Straight—Male Thread

The smaller sizes of connectors are made of steel; larger sizes, of cast Feraloy.

With Tapered Rubber Bushing—Watertight

*Schedule 1

For connecting round flexible cord or cable to Condulets, outlet boxes, plug handles, or rigid conduit. Cord or cable will pass entirely through the connector without removing outer covering.

Cat. No.	List Each	Dimensions, Inches †A	§B	‖C
CGB3892	$1.30	.125 to .250	⅜	15/32
CGB192	1.30	.125 to .250	½	21/32
CGB292	1.30	.125 to .250	¾	11/16
CGB3893	1.30	.250 to .375	⅜	15/32
CGB193	1.30	.250 to .375	½	21/32
CGB293	1.30	.250 to .375	¾	11/16
CGB194	1.30	.375 to .500	½	21/32
CGB294	1.30	.375 to .500	¾	11/16
CGB295	1.30	.500 to .625	¾	11/16
CGB395	2.00	.500 to .625	1	1 1/16
CGB396	2.00	.625 to .750	1	1 1/16

*Schedule 2

For connecting round flexible cord or cable to Condulets, outlet boxes, or rigid conduit. Cord or cable will not pass through the connector without removing outer covering.

CGB195	$1.30	.500 to .625	½	½
CGB196	2.00	.625 to .750	½	½
CGB296	2.00	.625 to .750	¾	11/16
CGB297	2.00	.750 to .875	¾	11/16
CGB398	2.90	.875 to 1.000	1	1 1/16

*Use schedule numbers for identification of connectors when consulting Underwriters' Laboratories' list of inspected electrical appliances.

†A—Inside diameter in inches of rubber bushing which takes round flexible cord or cable.

§B—Size in inches of Condulet hub with which connectors can be used.

‖C—Inside diameter of hole through nipple of connectors.

CROUSE-HINDS CONNECTORS

TYPE CGB CONNECTORS

With Tapered Split Lead Sleeves

***Schedule 3**

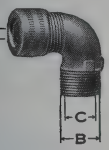
For connecting armored cable or flexible conduit to Condulets, outlet boxes, plug handles, or rigid conduit. Armored cable or flexible conduit will pass entirely through the connector.

Cat. No.	List Each	Dimensions, Inches ‡A	§B	‖C
CGB184	$1.30	.375 to .500	½	12/32
CGB185	1.30	.500 to .563	½	13/32
CGB285	1.30	.500 to .625	¾	11/16
CGB386	2.00	.625 to .781	1	15/16
CGB387	2.00	.781 to .938	1	15/16
CGB489	2.90	.938 to 1.156	1¼	1 7/32
CGB589	2.90	.938 to 1.156	1½	1 7/16

***Schedule 4**

For connecting armored cable or flexible conduit to Condulets, outlet boxes, plug handles, or rigid conduit. Armored cable or flexible conduit will not pass through the connector without removing outer covering.

CGB186	$2.00	.625 to .781	½	½
CGB286	2.00	.625 to .781	¾	11/16
CGB187	2.00	.781 to .938	½	½
CGB287	2.00	.781 to .938	¾	11/16
CGB289	2.90	.938 to 1.156	¾	11/16
CGB389	2.90	.938 to 1.156	1	29/32



TYPE CGE CONNECTORS

90° Angle—Male Thread

With Tapered Rubber Bushing—Watertight

The smaller sizes of connectors are made of steel; larger sizes of cast Feraloy.

***Schedule 1**

For connecting round flexible cord or cable to Condulets, outlet boxes, plug handles, or rigid conduit. Cord or cable will pass entirely through the connector without removing outer covering.

Cat. No.	List Each	Dimensions, Inches †A	§B	‖C
CGE192	$1.30	.125 to .250	½	½
CGE292	1.30	.125 to .250	¾	11/16
CGE193	1.30	.250 to .375	½	½
CGE293	1.30	.250 to .375	¾	11/16
CGE194	1.30	.375 to .438	½	½
CGE294	1.30	.375 to .500	¾	11/16
CGE295	1.30	.500 to .625	¾	11/16
CGE395	2.00	.500 to .625	1	29/32
CGE396	2.00	.625 to .750	1	29/32
CGE397	2.00	.750 to .813	1	29/32
CGE498	2.90	.875 to 1.000	1¼	1 7/32

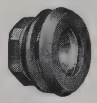
***Schedule 2**

For connecting round flexible cord or cable to Condulets, outlet boxes, or rigid conduit. Cord or cable will not pass through the connector without removing outer covering.

CGE195	$1.30	.500 to .625	½	½
CGE196	2.00	.625 to .750	½	½
CGE296	2.00	.625 to .750	¾	11/16
CGE197	2.00	.750 to .875	½	½
CGE297	2.00	.750 to .875	¾	11/16
CGE397	2.00	.813 to .875	1	29/32
CGE398	2.90	.875 to 1.000	1	29/32

*Use schedule numbers for identification of connectors when consulting Underwriters' Laboratories' list of inspected electrical appliances. †A—Inside diameter in inches of rubber bushing which takes round flexible cord or cable. ‡A—Inside diameter in inches of split lead sleeve which takes armored cable or flexible conduit. §B—Size in inches of Condulet hub with which connectors can be used. ‖C—Inside diameter of hole through nipple of connectors.

CROUSE-HINDS CONDULETS



THREADLESS CONDULET REDUCERS

For Threadless Condulets

Size Inches	Thick Wall No.	Thick Wall Per 100	Thin Wall EMT* No.	Thin Wall EMT* Per 100
¾ – ½	RE291	$58.00	RE251	$58.00
1 – ½	RE391	76.00	RE351	76.00
1 – ¾	RE392	86.00	RE352	86.00
1¼ – ½	RE491	102.00	RE451	102.00
1¼ – ¾	RE492	108.00	RE452	108.00
1¼ – 1	RE493	116.00	RE453	116.00
1½ – ½	RE591	114.00	RE551	114.00
1½ – ¾	RE592	128.00	RE552	128.00
1½ – 1	RE593	134.00	RE553	134.00
1½ – 1¼	RE594	162.00	RE554	162.00
2 – ½	RE691	150.00	RE651	150.00
2 – ¾	RE692	170.00	RE652	170.00
2 – 1	RE693	184.00	RE653	184.00
2 – 1¼	RE694	204.00	RE654	204.00
2 – 1½	RE695	216.00	RE655	216.00

*External threaded portion has a fine thread to fit EMT Condulets only.

Certain sizes of thin wall reducers for old style Condulets with external clamping nut can be furnished.

TYPE EYS SEALING CONDULETS

Explosion-Proof

For Sealing Vertical Runs of Conduit

Female Hub Top and Bottom

Size In.	Lgth.	Turning Radius	Internal Volumes Cu. In.	Cat. No.	List Each
½	3 9/32	1 5/8	1	EYS1	$1.30
¾	3 11/16	1 23/32	1¾	EYS2	1.60
1	4 1/16	2 3/32	4	EYS3	2.10
1¼	5 1/16	1 23/32	6½	EYS4	2.60
1½	5½	2 1/16	8½	EYS5	3.90
2	6¼	2 5/16	18	EYS6	5.10
2½	7½	2 11/16	30	EYS7	8.00
3	8½	3 5/16	64	EYS8	10.00

Male and Female Hub*

½	3 9/32	1 5/8	1	EYS16	1.30
¾	3 11/16	1 23/32	1¾	EYS26	1.60
1	4 1/16	2 3/8	4	EYS36	2.10
1¼	5 1/16	1 23/32	6½	EYS46	2.60
1½	5½	2 1/16	8½	EYS56	3.90
2	6¼	2 5/16	18	EYS66	5.10
2½	7½	2 11/16	30	EYS76	8.00
3	8½	3 5/16	64	EYS86	10.00

TYPE EZS SEALING CONDULETS

Explosion-Proof

For Sealing Vertical or Horizontal Runs of Conduit

Condulets have round cover openings and provide ample room for placing dams around and between conductors, preparatory to sealing.

Female Hub Top and Bottom

Size In.	Lgth.	Turning Radius†	Internal Volumes Cu. In.	Cat. No.	List Each
½	4 1/16	1 7/8	5½	EZS1	$2.30
¾	4 5/16	1 7/8	6	EZS2	2.90
1	4 15/16	2 1/16	9	EZS3	3.70
1¼	5 1/16	2 5/16	12½	EZS4	4.70
1½	5 5/16	2¼	14	EZS5	7.00
2	7 1/16	3 3/16	46	EZS6	9.20
2½	7 15/16	3 3/8	55	EZS7	14.80
3	8 5/8	3¾	88	EZS8	21.40

Male and Female Hub*

½	4 5/8	1¾	5½	EZS16	2.30
¾	4 3/16	1¾	6	EZS26	2.90
1	4 15/16	2 1/16	9	EZS36	3.70
1¼	5 1/16	2 5/16	12½	EZS46	4.70
1½	5 5/8	2¼	14	EZS56	7.00
2	7 1/16	3 3/16	46	EZS66	9.20
2½	7 15/16	3 3/8	55	EZS76	14.80
3	8 5/8	3¾	88	EZS86	21.40

*The male and female hub listings include a close conduit nipple which may be used interchangeably in either top or bottom hub. †With cover removed.

CROUSE-HINDS CONDULETS

TYPE EZD INSPECTION AND DRAIN SEALING CONDULETS

Explosion-Proof

For Sealing Vertical Runs of Conduit

The National Electrical Code requires that conduit systems in Class I Hazardous Locations be provided with means by which the systems can be drained of water, if there is a likelihood of water accumulation.

Type EZD Drain Seals and EZD Inspection Seals listed below make compliance with this rule simple and inexpensive.

Inspection Seal Condulets

Size In.	Lgth.	Turning Radius†	Internal Volume	Cat. No.	List Each
½	4 3/16	2 1/16	5	EZD10	$2.70
¾	4 3/16	2 3/16	6	EZD20	3.40
1	4 13/16	2 7/16	10	EZD30	4.40
1¼	4 13/16	2 9/16	11	EZD40	5.50
1½	5 3/16	2 11/16	13	EZD50	8.20
2	7 1/8	3 11/16	40	EZD60	10.80
2½	8	3 7/8	50	EZD70	13.00

Drain Seal Condulets

½	4 3/16	2 1/16	5	EZD111	5.70
¾	4 3/16	2 3/16	6	EZD211	6.40
1	4 13/16	2 7/16	10	EZD311	7.40
1¼	4 13/16	2 9/16	11	EZD411	8.50
1½	5 3/16	2 11/16	13	EZD511	11.20
2	7 1/8	3 11/16	40	EZD611	13.80
2½	8	3 7/8	50	EZD711	16.00

†With cover removed.

CHICO A SEALING COMPOUND

Not affected by gasoline, alcohol, acetone, etc.

Put up in air-tight and moisture-proof packages.

No.	A2	A3	A4	A23	A24	A05	A5
Each	$0.80	$1.30	$2.00	$2.20	$3.80	$3.60	$7.20
*Volume cu. in.	13	23	23	46	46	115	230
Pkg. No.	2	3	4	23	24	05	5
Wt. lbs.	3/16	1	†1	2	‡2	5	10

*Number of cubic inches volume this amount fills when set. †With ¾-ounce Chico X Fiber. ‡With 2-ounce Chico X Fiber.

Chico X Fiber

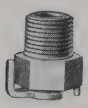
No.	X1	X2	X3	X4	X5	X6	X7
Per Pkg.	$0.50	$0.80	$1.00	$1.80	$3.40	$5.80	$9.60
Pkg. No.	1	2	3	4	5	6	7
Wt. oz.	3/8	¾	1	2	4	8	16

Approximate amount of fiber required per Condulet hub:

Hub in.	½	¾	1	1¼	1½	2	2½	3
Oz. Req.	3/32	1/16	⅛	¼	½	1	1½	2

TYPE ECD DRAIN AND BREATHER VALVES

Explosion-Proof—Class I, Groups C and D



ECD Drain

ECD Breather

The ECD breather valve is similar to the ECD drain but is designed to be installed in the top of explosion-proof housings, allowing air to pass in or out as conditions vary. The labyrinth handle is a rotating cap to prevent dirt from interfering with the action of the valve.

For Water Only No.	For Water Under Oil No.	For Air Only No.	Size Pipe Thread	List Each
ECD281	ECD282	ECD283	¼	$3.30
ECD381	ECD382	ECD383	⅜	3.30
ECD11	ECD12	ECD13	½	3.30

CROUSE-HINDS LIGHTING FIXTURES

EV SERIES

Explosion-Proof

Class I, Groups C and D

Hoods are cast aluminum with etched alzak aluminum inner reflectors. Globe holder assembly consists of clear, heat-resisting, impact-resisting, glass globe, equipped with sheet aluminum gasket and cast aluminum mounting and retaining rings. Cast aluminum guards are held to globe mounting rings by machine screws. Furnished without reflectors.

Type EVA—Pendent Type

Complete with a Condulet body for pendent mounting on a conduit stem. A set screw in hub may be tightened against unthreaded part of conduit to prevent unscrewing from conduit when relamping. May be suspended by a conduit stem from GUA or GUF series Condulets with three-inch cover opening and GUA fixture covers or canopies.

Watts	Size In.	With Guard No.	With Guard Each	Without Guard No.	Without Guard Each
		EVA-		EVA-	
75	½	140	$19.75	104	$18.60
	¾	240	19.90	204	18.75
†100	½	110	29.50	101	27.95
	¾	210	29.65	201	28.10
150	½	115	29.50	105	27.95
	¾	215	29.65	205	28.10
‡200/300	½	120	42.40	102	40.15
	¾	220	42.55	202	40.30
300*	¾	230	69.95	203	65.35
500*	1¼	450	137.25	406	130.70

Type EVCX—Ceiling Type

Has four threaded hubs, three of which are furnished with pipe plugs.

Watts	Size In.	EVCX- No.	EVCX- Each	EVCX- No.	EVCX- Each
75	½	140	$26.15	104	$25.00
	¾	240	26.60	204	25.45
†100	½	110	36.05	101	34.50
	¾	210	36.50	201	34.95
150	½	115	36.05	105	34.50
	¾	215	36.50	205	34.95
‡200/300	½	120	48.95	102	46.70
	¾	220	49.40	202	47.15
300*	½	136	76.75	163	72.15
	¾	236	77.20	263	72.60
500*	½	150	144.10	106	137.55
	¾	250	144.55	206	138.00

Type EVBX—Bracket Type

Four hubs tapped for rigid conduit are provided, three of which are equipped with threaded pipe plugs.

Watts	Size In.	EVBX- No.	EVBX- Each	EVBX- No.	EVBX- Each
75	½	140	$29.20	104	$28.05
	¾	240	29.65	204	28.50
†100	½	110	39.05	101	37.50
	¾	210	39.50	201	37.95
150	½	115	39.05	105	37.50
	¾	215	39.50	205	37.95
‡*200/300	½	120	52.00	102	49.75
	¾	220	52.45	202	50.20

‡300-watt type PS30 lamp only. Fixtures equipped with deep bowl or 30° angle reflectors are listed for Class I, Group D locations only.

*Take deep bowl and 30° angle reflectors only.

†These lighting units are designed for the A-21 standard lamp and cannot be used with 100-watt A-23 lamp. Should there be a requirement for the A-23 100-watt lamp, add Suffix S261 to catalog number. There will be no extra charge for the lighting fixture arranged in this manner.

*Equipped with mogul base lamp receptacle; all others equipped with medium base lamp receptacle.

Also available in polished aluminum finish for hospital use. Prices on request.

CROUSE-HINDS LIGHTING FIXTURES

REFLECTORS FOR EV SERIES LIGHTING FIXTURES

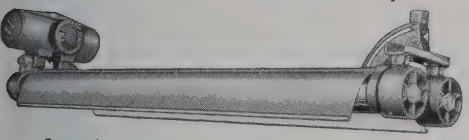
Dome Deep Shallow 30° Angle

Reflectors are porcelain enameled steel, green outside and white inside. Also available in all white enamel for hospital use.

Fixture Watts	Diam. In.	Cat. No. EV-	List Each	Style	Fixture Watts	Diam. In.	Cat. No. EV-	List Each
75	10¼	481	$3.80	Dome	150	13¾	581	$4.95
	8¼	483	4.20	Deep		10¼	583	5.30
	10¼	485	3.45	Shallow		13¾	585	4.55
	8¼	487	4.20	30° Angle		12⅛	587	5.30
100	12⅛	181	4.20	Dome	200/	16⅛	281	5.70
	9¼	183	4.55	Deep	300	12⅛	283	6.10
	12⅛	185	3.80	Shallow		16⅛	285	6.30
	10¼	187	4.55	30° Angle		13¾	287	6.85
300	20⅞	381	9.90	Dome	500	20½	681	9.90
	16⅛	383	10.25	Deep				
	20½	385	9.50	Shallow				
	16⅛	387	6.85	30° Angle				

TYPE EVF INDUSTRIAL LIGHTING FIXTURE

For Fluorescent Lamps
Explosion-Proof and Dust-Tight
Class I, Groups C and D; Class II, Groups E, F, and G; and Class III
Furnished with Enameled Reflector, Standard Ballast, and Starter
For 40-Watt, T-12 Fluorescent Lamps



Lamps† Number	Volts at 60 Cycles	Size Hub	Cat. No.	List Each
1	110-125	½†	EVF114	$190.00
		¾	EVF214	190.00
	220-250	½†	EVF1142	190.00
		¾	EVF2142	190.00
2	110-125	½†	EVF124	243.20
		¾	EVF224	243.20
	220-250	½†	EVF1242	243.20
		¾	EVF2242	243.20
3	110-125	½†	EVF134	364.80
		¾	EVF234	364.80
	220-250	½†	EVF1342	364.80
		¾	EVF2342	364.80
4	110-125	½†	EVF144	471.20
		¾	EVF244	471.20
	220-250	½†	EVF1442	471.20
		¾	EVF2442	471.20

Type EVF Accessories

Ceiling Saddle for Conduit Support — **Ceiling Saddle for Support Hook** — **Support Hook for Conduit**

Size	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
¾	EVF20	$1.00	EVF021	$1.00	EVF21	$0.70

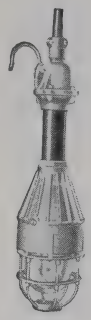
†½-inch hub at ballast end only. ¾-inch hub at relamping end.

‡Lamps are not included in the list price.

CROUSE-HINDS LIGHTING FIXTURES

TYPE EVH EXPLOSION-PROOF HAND LAMPS

Class I, Group D



Globe with Holder

Guard

Furnished with lamp receptacle, globe, and guard. Designed and constructed to provide the utmost safety, durability, and ease of wiring.

Non-sparking metals are used. Laminated bakelite handle is firmly secured to the cast aluminum body, in which is mounted a keyless, composition lamp receptacle.

75-Watt, Takes 25, 40, 60, or 75-Watt A19 Lamps

No.	Description	Each
EVH40	EVH Hand Lamp	$33.45
EVH4	Clear Globe with Holder	12.60
	Cost of New Globe Installed in Customer's Holder†	6.55
EVH084	Guard	4.20

100-Watt††, Takes 75 or 100 Watt A21 or 100-Watt A23 Lamps

EVH110	EVH Hand Lamp	$54.70
EVH4	Clear Globe with Holder	12.60
	Cost of New Globe Installed in Customer's Holder†	6.55
EVH084	Guard	4.20

TYPE EVS PORTABLE LAMPS

Class I, Groups C and D

Furnished with lamp receptacle, globe, and guard. Same construction as the type EVA fixtures, with a handle assembly added.

Handle assembly includes a hook and cable clamp. A third terminal is provided in type EVS for connection to a third wire in the portable cord for grounding the non-current-carrying metal parts of the unit.

Diameter of cable, .250 to .625 inch.

Globe with Holder

No. of Watts	Portable Lamps No.	Portable Lamps Each	†Globes and Holders No.	†Globes and Holders Each	Replacement Cost
100	EVS80	$41.05	EV710	$18.25	$8.35
150	EVS81	41.05	EV715	18.25	8.35
200	EVS82	54.70	EV720	30.40	15.20

†Globes must be assembled in the threaded holder at the factory. Used holder assemblies, when sent to the factory accompanied by a repair and return order, will be fitted with new globes at the list prices indicated above. The holders must not be damaged to such an extent that an explosion-proof assembly cannot be made.

††The EVH100, formerly listed on this page, can still be furnished where required by government specifications or where needed for match-up and replacement. Price on application.

The EVH40 is also suitable for Class II, Group G locations when used with 25 or 40-watt lamps.

CROUSE-HINDS LIGHTING FIXTURES
DL SERIES LIGHTING FIXTURE CONDULETS
Dust-Tight

For Class II, Group G Hazardous Locations When Mounted Vertically

For Class III Hazardous Locations When Mounted in Any Position

Bodies and hoods of cast aluminum.

Type DLA pendent type fixtures may be suspended from CPS series Condulets with hub covers.

Type DLC ceiling type is made to mount directly on CPS series Condulets.

Type DLA Pendent Type

With Shock-Absorbing Lamp Receptacle V46 and Globe

100-Watt Lamps

Size In.	Cat. No. DLA-	List Each	Cat. No. DLC-	List Each
½	101	$14.75	50F	$14.75
¾	201	14.75	.....	.....
150 and 200-Watt Lamps				
½	121	$17.25	20F	$17.25
¾	221	17.25	.....	.....

Type DLC Ceiling Type

With Porcelain Enameled Steel Reflector

Reflector is green porcelain enamel outside; and white porcelain enamel inside.

Type DLA (Dome) Pendent Type

Type DLC (Dome) Ceiling Type

Cat. No. DLA-	List Each	Reflector No. DL-	Reflector Dia. In.	Size Hub In.	Cat. No. DLC-	List Each	Reflector No. DL-	Reflector Dia. In.
100-Watt Lamps								
1020	$17.50	23	12	½	720F	$17.50	23	12
2020	17.50	23	12	¾	.....	.....	....	....
150 or 200-Watt Lamps					**150 or 200-Watt Lamps**			
1022	$25.05	24	18	½	.....	.....	....	....
2022	25.05	24	18	¾	722F	$25.05	24	18

Type DLA

Dust-Tight and Weather Resistant (Raintight) Class II, Groups E, F, and G; and Class III

For use in Class II hazardous locations where a simple yet sturdy fixture without reflector is required. Also suitable where a raintight unit is needed.

Form 100 takes 60, 75, and 100-W. lamps. Furnished with V105 globe.

Form 200 takes 150 and 200-W. lamps. Furnished with V205 globe.

Fixtures with heat-resisting globes can be furnished. Prices on application.

Condulet with Globe

Condulet with Globe and Guard

Guard

Form	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each
100	DLA110	$4.55	DLA119	$6.05	DL103	$1.50
200	DLA120	6.60	DLA128	9.05	DL222	2.45

CROUSE-HINDS LIGHTING FIXTURES
CPS SERIES JUNCTION CONDULETS
Dust-Tight and Weather Resistant (Raintight)*

Class II, Groups E, F, and G; and Class III Take Hub Covers and DL Series Lighting Fixtures

Outside Dimensions of Body, exclusive of hubs: Diameter, 4⅝ inches. Depth, 1⅞ inches.

Dead End

Through Feed

Form 20—Without Mounting Feet‡

Size Hub	Cat. No.	List Each	Cat. No.	List Each
	Type L		Type X	
½	CPS1028	$2.50	CPS1128	$2.70
¾	CPS2028	2.60	CPS2128	2.90
1	CPS3028	2.70	CPS3128	3.10

½	CPS1228	$2.70	CPS1428	$3.10
¾	CPS2228	2.90	CPS2428	3.50
1	CPS3228	3.10	CPS3428	3.90

Covers For CPS Series Condulets—Form 20

Size Hub	Cat. No.	List Each
½	DL1	$2.00
¾	DL2	2.10

TYPE ELG GAUGE LIGHTING FIXTURES
Explosion-Proof

For Medium Screw Base, Lumiline, and Fluorescent Lamps

Class I, Group D

Style 1 One-Light, With Hood

Style 1 Two-Light With Hood

Style 2 and Style 3 With Hood

Style	No. of Hub L'ps	Size	Less Hood—No.	Less Hood—Each	With Hood—No.	With Hood—Each
Takes Medium Screw Base Incandescent Lamps 25-Watt, T10-Bulb						
1	1	½	ELG1250	$33.50	ELG125	$35.50
1	1	¾	ELG2250	33.70	ELG225	35.70
1	2	½	ELG1500	55.50	ELG150	59.50
1	2	¾	ELG2500	55.70	ELG250	59.70
Takes 18-Inch Incandescent Lumiline Lamp 60-Watt, T8-Bulb						
2	1	½	ELG1060	$73.50	ELG106	$79.00
2	1	¾	ELG2060	73.70	ELG206	79.20
Takes 18-Inch Fluorescent Lamp—15-Watt, T8-Bulb Complete with Ballast and Starter						
3	1	½	ELG1150	$86.50	ELG115	$92.00
3	1	¾	ELG2150	86.70	ELG215	92.20

‡CPS series Condulets will be furnished with mounting feet at an advance of **$0.20** in the list price. *When assembled with DLC series lighting fixtures or hub covers. †Lamps are not included in the list price. Form 20 indicates size of Condulet which takes covers correspondingly classified.

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

V AND VH SERIES—CLAMP GUARD TYPE

Cast aluminum guards. Cast Feraloy fixtures.

Form 100 is furnished with No. V75 globe and No. V97 guard, and takes 50, 60, 75, or 100-watt lamps.

Form 200 is furnished with No. V200 globe and No. VH99 guard, and takes 150 or 200-watt lamps.

Types V and VH

Type V
Form 100

Size In.	With Globe and Guard — Cat. No.	List Each	Without Globe and Guard — Cat. No.	List Each
½	V189	$9.00	V1	$3.80
¾	V289	9.10	V2	3.90
1	V389	9.20	V3	4.00

Type VH
Form 200

½	VH189	$10.80	VH1	$4.70
¾	VH289	10.90	VH2	4.80
1	VH389	11.00	VH3	4.90

Types VC and VHC

Type VC
Form 100

½	VC1189	$9.20	VC11	$4.00
¾	VC2289	9.40	VC22	4.20
1	VC3389	9.60	VC33	4.40

Type VHC
Form 200

½	VHC1189	$11.00	VHC11	$4.90
¾	VHC2289	11.20	VHC22	5.10
1	VHC3389	11.30	VHC33	5.20

Types VL and VHL

Type VL
Form 100

½	VL1189	$9.20	VL11	$4.00
¾	VL2289	9.40	VL22	4.20
1	VL3389	9.60	VL33	4.40

Type VHL
Form 200

½	VHL1189	$11.00	VHL11	$4.90
¾	VHL2289	11.20	VHL22	5.10
1	VHL3389	11.30	VHL33	5.20

Types VT and VHT

Type VT
Form 100

½	VT11189	$9.50	VT111	$4.30
¾	VT22289	9.70	VT222	4.50
1	VT33389	10.10	VT333	4.90

Type VHT
Form 200

½	VHT11189	$11.20	VHT111	$5.10
¾	VHT22289	11.50	VHT222	5.40
1	VHT33389	11.70	VHT333	5.60

Types VDA and VHDA

Type VDA
Form 100

½	VDA189	$9.00	VDA1	$3.80
¾	VDA289	9.10	VDA2	3.90
1	VDA389	9.20	VDA3	4.00

Type VHDA
Form 200

½	VHDA189	$10.80	VHDA1	$4.70
¾	VHDA289	10.90	VHDA2	4.80
1	VHDA389	11.00	VHDA3	4.90

Forms 100 and 200 indicate sizes of fixtures. Accessories and parts are correspondingly classified.

If specified on the order, lamp receptacle with lamp grip will be furnished at an advance of 20 cents in the list price.

If specified on the order, pigtail receptacle will be furnished at an advance of 90 cents in the list price.

These fixtures can be equipped with externally operated switch at an advance of $2.00 in the list price.

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

V AND VH SERIES—CLAMP GUARD TYPE

Types VJ and VHJ

Type VJ
Form 100

Size In.	With Globe and Guard — Cat. No.	List Each	Without Globe and Guard — Cat. No.	List Each
½	VJ1189	$10.30	VJ11	$5.10
¾	VJ2289	10.50	VJ22	5.30
1	VJ3389	10.70	VJ33	5.50

Type VHJ
Form 200

½	VHJ1189	$11.80	VHJ11	$5.70
¾	VHJ2289	12.00	VHJ22	5.90
1	VHJ3389	12.20	VHJ33	6.10

Types VG and VHG

Type VG
Form 100

½	VG189	$9.50	VG1	$4.30
¾	VG289	9.70	VG2	4.50

Type VHG
Form 200

½	VHG189	$11.00	VHG1	$4.90
¾	VHG289	11.20	VHG2	5.10

Types VE and VHE

Type VE
Form 100

½	VE189	$9.50	VE1	$4.30
¾	VE289	9.70	VE2	4.50
1	VE389	9.90	VE3	4.70

Type VHE
Form 200

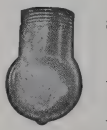
½	VHE189	$11.00	VHE1	$4.90
¾	VHE289	11.20	VHE2	5.10
1	VHE389	11.40	VHE3	5.30

ACCESSORIES AND PARTS

For V and VH Series Fixtures, Clamp Guard Type

GLOBES

Globe	Form 100 — 5⅝ In. Long Cat. No.	Each	6¾ In. Long Cat. No.	Each	Form 200 — 9¼ In. Long Cat. No.	Each
Clear	V18	$1.60	V75	$1.60	V200	$1.60
Opal	VN81	3.40	VN71	3.40	VO201	4.70
Green	VN82	3.40	VN72	3.40	VO202	4.70
Blue	VN83	3.40	VN73	3.40	VO203	4.70
Red	VN85	3.40	VN75	3.40	VO205	4.70
Amber	VN86	3.40	VN76	3.40	VO206	4.70
	Prismatic Diffusing Globes					
Clear	--------	--------	V103	$1.60	--------	--------
	Heat-Resisting Globes					
Clear	V183	$2.50	V63	$2.50	V93	$4.00



Pear-Shaped Globes

Clear globes. Cannot be used with straight guards.

Cat. No.	List Each	Lamp Size Watts
	Form 100	
V105	$1.60	50, 60, 75, 100
	Form 200	
V205	$1.60	150
V205	1.60	200

VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

V SERIES—SCREW GUARD TYPE

Type V

Form 100 is furnished with No. V75 globe and No. V911 guard, and takes 50, 60, 75, or 100-watt lamps.

Form 200 furnished with No. V200 globe and No. V912 guard, takes 150 or 200-watt lamps.

Cast aluminum guards; cast Feraloy fixtures.

Type V

Size In.	With Globe and Guard — No.	Each	Without Globe and Guard — No.	Each
Form 100				
½	V1759	$9.00	V175	$3.80
¾	V2759	9.10	V275	3.90
1	V3759	9.20	V375	4.00
Form 200				
½	V12009	$10.80	V1200	$4.70
¾	V22009	10.90	V2200	4.80
1	V32009	11.00	V3200	4.90

Type VC

Type VC

Form 100				
½	VC1759	$9.20	VC175	$4.00
¾	VC2759	9.40	VC275	4.20
1	VC3759	9.60	VC375	4.40
Form 200				
½	VC12009	$11.00	VC1200	$4.90
¾	VC22009	11.20	VC2200	5.10
1	VC32009	11.30	VC3200	5.20

Type VL

Type VL

Form 100				
½	VL1759	$9.20	VL175	$4.00
¾	VL2759	9.40	VL275	4.20
1	VL3759	9.60	VL375	4.40
Form 200				
½	VL12009	$11.00	VL1200	$4.90
¾	VL22009	11.20	VL2200	5.10
1	VL32009	11.30	VL3200	5.20

Type VT

Type VT

Form 100				
½	VT1759	$9.50	VT175	$4.30
¾	VT2759	9.70	VT275	4.50
1	VT3759	10.10	VT375	4.90
Form 200				
½	VT12009	$11.20	VT1200	$5.10
¾	VT22009	11.50	VT2200	5.40
1	VT32009	11.70	VT3200	5.60

Type VX

Type VX

Form 100				
½	VX1759	$9.70	VX175	$4.50
¾	VX2759	10.10	VX275	4.90
1	VX3759	10.40	VX375	5.20
Form 200				
½	VX12009	$11.40	VX1200	$5.30
¾	VX22009	11.80	VX2200	5.70
1	VX32009	12.10	VX3200	6.00

Type VDA

Type VDA

Form 100				
½	VDA1759	$9.00	VDA175	$3.80
¾	VDA2759	9.10	VDA275	3.90
1	VDA3759	9.20	VDA375	4.00
Form 200				
½	VDA12009	10.80	VDA1200	4.70
¾	VDA22009	10.90	VDA2200	4.80
1	VDA32009	11.00	VDA3200	4.90

Forms 100 and 200 indicate sizes of fixtures. Accessories and parts are correspondingly classified.

If specified on the order, lamp receptacle with lamp grip will be furnished at an advance of 20 cents in the list price.

If specified on the order, pigtail receptacle will be furnished at an advance of 90 cents in the list price.

These fixtures can be equipped with externally operated switch at an advance of $2.00 in the list price.

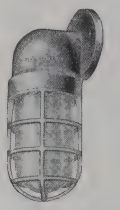
VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

V SERIES—SCREW GUARD TYPE

Type VJ

Type VJ

Size In.	With Globe and Guard — No.	Each	Without Globe and Guard — No.	Each
Form 100				
½	VJ1759	$10.30	VJ175	$5.10
¾	VJ2759	10.50	VJ275	5.30
1	VJ3759	10.70	VJ375	5.50
Form 200				
½	VJ12009	$11.80	VJ1200	$5.70
¾	VJ22009	12.00	VJ2200	5.90
1	VJ32009	12.20	VJ3200	6.10


Type VG

Type VG

Form 100				
½	VG1759	$9.50	VG175	$4.30
¾	VG2759	9.70	VG275	4.50
Form 200				
½	VG12009	$11.00	VG1200	$4.90
¾	VG22009	11.20	VG2200	5.10

Type VE

Type VE

Form 100				
½	VE1759	$9.50	VE175	$4.30
¾	VE2759	9.70	VE275	4.50
Form 200				
½	VE12009	$11.00	VE1200	$4.90
¾	VE22009	11.20	VE2200	5.10

ACCESSORIES AND PARTS

For V Series Fixtures, Screw Guard Type

GLOBES

Globe	Form 100 — 5⅝ In. Long No.	Each	6¾ In. Long No.	Each	Form 200 — 9¼ In. Long No.	Each
Clear	V18	$1.60	V75	$1.60	V200	$1.60
Opal	VN81	3.40	VN71	3.40	VO201	4.70
Green	VN82	3.40	VN72	3.40	VO202	4.70
Blue	VN83	3.40	VN73	3.40	VO203	4.70
Red	VN85	3.40	VN75	3.40	VO205	4.70
Amber	VN86	3.40	VN76	3.40	VO206	4.70
Prismatic Diffusing Globes						
Clear	-----	-----	V103	$1.60	-----	-----
Heat-Resisting Globes						
Clear	V183	$2.50	V63	$2.50	V93	$4.00

Pear-Shaped Globes

Clear globes. Cannot be used with straight guards.

No.	Each	Lamp Size Watts
Form 100		
V105	$1.60	50, 60, 75, 100
Form 200		
V205	$1.60	150
V205	1.60	200

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

ACCESSORIES AND PARTS (Continued)

For V and VH Series Condulets, Clamp Guard

Guards

Guards with Reflector Holders

Guards for Use with Pear-Shaped Globes

For Globe In.	Cast Aluminum Cat. No.	List Each	Cat. No.	Steel, Tinned Finish List Each	Form	Cat. No.	List Each
5⅝	V95	$3.60	--------	--------	100	--------	--------
6¾	V97	3.60	V913	$3.60	100	V948	$6.00
9¼	VH99	4.50	VH914	4.50	200	VH949	7.00

‡Reflector Holders

Cat. No.	List Each	Form
--------	--------	100
V625	$1.00	100
VH626	1.30	200

Half Shades

Cast Aluminum Cat. No.	List Each	Sheet Aluminum Cat. No.	List Each	For Guard No.
		SH7	$1.00	V95
		SH1	1.00	V97
		SH2	2.00	VH99

Dome Reflectors

Shallow Bowl Reflectors

Form 100

Cat. No.	List Each	Lamp Size Watts	Dia. In.	Dpth. In.	Cat. No.	List Each	Dia. In.	Dpth. In.
SH-		50, 60,			SH-			
27	$5.50	75, 100	12	5⅛	57	$4.50	12	3⅜
Form 200								
28	$6.50	150	14	6¼	58	$5.50	14	4 3/16
29	7.50	200	16	7⅜	59	6.50	16	4 13/16

Deep Bowl Reflectors

30° Angle Reflectors

Form 100

SH-		50, 60,			SH-			
47	$5.50	75, 100	8	5 9/16	*67	$4.00	10	8¼
Form 200								
48	$6.50	150	10	7	†68	$7.00	12	10⅜
49	7.50	200	10	7¼	†68	7.00	12	10¾

Receptacles

660 Watts, 600 Volts

Forms 100 and 200

Keyless No.	Each	Material	Shock-Absorbing No.	Each
V46	$1.30	Porcelain	--------	--------
GS126M2	1.30	Composition	V56	$2.50

V56 for use with Pear-Shaped Globes V105 and V205 Only.

‡For clamping reflector to Condulet when guard is not used.

*Center line of Condulet must be located 4⅝ inches from the wall for mounting angle reflector.

†Center line of Condulet must be located 4⅞ inches from the wall for mounting angle reflector.

Reflectors are green porcelain enamel outside and white porcelain enamel inside.

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

Types ARB and VGR

Class III

For flush mounted SE, SEH, and SK series Condulets or 3¼ or 4-inch octagonal outlet boxes.*

Clamp Guard Type

Form 100 is furnished with Globe V75 and Guard V97, and takes 50, 60, 75, or 100-Watt Lamps.

Form 200 is furnished with Globe V200 and Guard VH99, and takes 150 or 200-Watt Lamps.

With Globe and Guard Cat. No.	List Each	Without Globe and Guard Cat. No.	List Each
Ceiling Type			
Form 100			
ARB43	$9.10	ARB44	$3.90
Form 200			
ARB41	10.20	ARB42	4.10
Bracket Type*			
Form 100			
VGR126	10.50	VGR120	5.30
Form 200			
VGR226	12.00	VGR220	5.90

TYPE VXHA

Clamp Guard Type

Has five hubs flush with the surface of the body. The hubs have integral bushings. Four of the hubs are spaced 90° apart around the side of the Condulet, while the fifth hub is placed in the center of the top of the Condulet. Condulet is furnished with four flush type threaded pipe plugs.

Form 100 furnished with V75 globe, and takes 50, 60, 75, or 100-watt lamps. Clamp guard type has V97 guard.

Form 200 furnished with V200 globe and takes 150- or 200-watt lamps. Clamp guard type has VH99 guard.

Cast aluminum guards. Cast Feraloy Condulets.

Form 100

Size In.	With Globe and Guard No.	Each	Without Globe and Guard No.	Each
½	VXHA112	$10.20	VXHA11	$5.00
¾	VXHA212	10.60	VXHA21	5.40
1	VXHA312	10.90	VXHA31	5.70
Form 200				
½	VXHA152	$11.90	VXHA151	$5.80
¾	VXHA252	12.30	VXHA251	6.20
1	VXHA352	12.60	VXHA351	6.50

Forms 100 and 200 indicate sizes of vaportight fixtures. Accessories and parts are correspondingly classified.

If specified on the order, lamp receptacle with lamp grip will be furnished at an advance of **$0.20** in the list price.

If specified on the order, pigtail receptacle will be furnished at an advance of **$0.90** in the list price.

*Type VGR bracket fixtures can be furnished without overhang for surface mounting on SE, SEH, or SK series Condulets at no additional charge. Catalog numbers on request.

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

ACCESSORIES AND PARTS (Continued)

For V Series Fixtures, Screw Guard Type

Guards | Guards with Reflector Holders | Guards for Use with Pear-Shaped Globes

Cast Aluminum — **Steel, Tinned Finish**

For Globe In.	Cat. No.	List Each	Cat. No.	List Each	Form	Cat. No.	List Each
5⅝	V910	$3.60	--------	--------	100	--------	--------
6¾	V911	3.60	V911	$3.60	100	V946	$6.00
9¼	V912	4.50	V912	4.50	200	V947	7.00

‡Reflector Holders — Half Shades

Cast Aluminum — Sheet Aluminum

Cat. No.	List Each	Form	Cat. No.	List Each	For Guard No.
--------	--------	100	V916	$1.00	V910
V623	$1.00	100	V918	1.00	V911
V624	1.30	200	V919	2.00	V912

Dome Reflectors — Shallow Bowl Reflectors

Form 100

Cat. No.	List Each	Lamp Size Watts	Dia. In.	Dpth. In.	Cat. No.	List Each	Dia. In.	Dpth. In.
SH-		50, 60,			SH-			
27	$5.50	75, 100	12	5⅛	57	$4.50	12	3⅜
Form 200								
28	$6.50	150	14	6¼	58	$5.50	14	4 3/16
29	7.50	200	16	7⅜	59	6.50	16	4 13/16

Deep Bowl Reflectors — 30° Angle Reflectors

Form 100

SH-		50, 60,			SH-			
47	$5.50	75, 100	8	5 5/16	*67	$4.00	10	8¼
Form 200								
48	$6.50	150	10	7	†68	$7.00	12	10⅜
49	7.50	200	10	7¼	†68	7.00	12	10¾

Receptacles

660 Watts, 600 Volts

Forms 100 and 200

Keyless — Shock-Absorbing

Cat. No.	List Each	Material	Cat. No.	List Each
V46	$1.30	Porcelain	------	--------
GS126M2	1.30	Composition	V56	$2.50

V56 for use with Pear-Shaped Globes V105 and V205 Only.

*Center line of Condulet must be located 4⅝ inches from the wall for mounting angle reflector.

†Center line of Condulet must be located 4⅞ inches from the wall for mounting angle reflector.

Reflectors are green porcelain enamel outside and white porcelain enamel inside.

‡For clamping reflector to Condulet when guard is not used.

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

TYPES ARB AND VGR

Class III

For flush mounted SE, SEH, and SK series Condulets or 3¼ or 4-inch octagonal outlet boxes.*

Screw Guard Type

Form 100 is furnished with Globe V75 and Guard V911, and takes 50, 60, 75, or 100-watt Lamps.

Form 200 is furnished with Globe V200 and Guard V912, and takes 150 or 200-watt Lamps.

	With Globe and Guard — Cat. No.	With Globe and Guard — List Each	Without Globe and Guard — Cat. No.	Without Globe and Guard — List Each
Ceiling Type				
Form 100				
ARB31	$9.10		ARB32	$3.90
Form 200				
ARB33	10.20		ARB34	4.10
Bracket Type*				
Form 100				
VGR116	10.50		VGR110	5.30
Form 200				
VGR216	12.00		VGR210	5.90

TYPE VXHA

Screw Guard Type

Class III

Has five hubs flush with the surface of the body. The hubs have integral bushings. Four of the hubs are spaced 90° apart around the side of the Condulet, while the fifth hub is placed in the center of the top of the Condulet. Condulet is furnished with four flush type threaded pipe plugs.

Form 100 furnished with V75 globe, and takes 50, 60, 75, or 100-watt lamps. Screw guard type has V911 guard.

Form 200 furnished with V200 globe and takes 150- or 200-watt lamps. Screw guard type has V912 guard.

Cast aluminum guards. Cast Feraloy Condulets.

Size, In.	With Globe and Guard — Cat. No.	With Globe and Guard — List Each	Without Globe and Guard — Cat. No.	Without Globe and Guard — List Each
Form 100				
½	VXHA1199	$10.20	VXHA119	$5.00
¾	VXHA2199	10.60	VXHA219	5.40
1	VXHA3199	10.90	VXHA319	5.70
Form 200				
½	VXHA1299	$11.90	VXHA129	$5.80
¾	VXHA2299	12.30	VXHA229	6.20
1	VXHA3299	12.60	VXHA329	6.50

Forms 100 and 200 indicate sizes of vaportight fixtures. Accessories and parts are correspondingly classified.

If specified, lamp receptacle with lamp grip will be furnished at an advance of **20** cents in list price.

If specified, pigtail receptacle will be furnished at an advance of **90** cents in list price.

*Type VGR bracket fixtures can be furnished without overhang for surface mounting on SE, SEH, or SK series Condulets or outlet boxes at no additional charge. Catalog numbers on request.

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

TYPE VDB FIXTURES WITH REFLECTORS

Type VDB is a cast aluminum fixture of the vaportight type, designed to meet the need for a simple, effective, and inexpensive vaportight industrial lighting fixture.

Furnished with a clear, plain pear-shaped globe, and a porcelain enameled reflector. The reflector is held to the body by four screws.

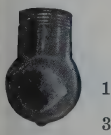
Form 3 furnished with No. VDB3 globe, reflector, and medium base lamp receptacle.

Form 5 furnished with No. VDB5 globe, reflector, and mogul base lamp receptacle.

Cat. No.	List Each	Form	Size In.	Lamp Watts
With Dome Reflectors				
VDB-				
138	$12.40	3	½	150
238	12.40	3	¾	150
139	15.25	3	½	200/300
239	15.25	3	¾	200/300
15	18.90	5	½	300/500
25	18.90	5	¾	300/500
Reflectors Only				
28	$4.00	3	14	150
29	6.85	3	16	200/300
115	8.20	5	18	300/500
With Deep Bowl Reflectors				
137	$16.00	5	½	300/500
237	16.00	5	¾	300/500
Reflector Only				
225	$5.30	5	12	300/500
With Shallow Bowl Reflectors				
13	$12.90	3	½	150
23	12.90	3	¾	150
17	15.25	3	½	200/300
27	15.25	3	¾	200/300
16	18.90	5	½	300/500
26	18.90	5	¾	300/500
Reflectors Only				
113	$4.50	3	14	150
117	6.85	3	16	200/300
19	8.20	5	18	300/500
With 30° Angle Reflectors*				
143	$13.60	3	½	150/200/300
243	13.60	3	¾	150/200/300
145	18.00	5	½	300/500
245	18.00	5	¾	300/500
Reflectors Only				
213	$5.20	3	12	150/200/300
215	7.30	5	14	300/500

*Center line of fixture must be located 5 inches from the wall for mounting.

ACCESSORIES FOR VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES



Pear-Shaped Globes—Clear

Lamp Size Watts	Form 3 Plain No.	Plain Each	Heat-Resisting No.	Heat-Resisting Each
150, 200, 300	VDB3	$2.00	VDB6	$7.85
Form 5				
300, 500	VDB5	3.30	VDB8	11.40

Basket Wire Guards

Steel, tinned finish.

For use with reflectors listed above; also with reflectors for V and VH series Condulets.

No.	V932	V934	V936	V938
Each	$3.65	4.20	4.75	5.30
For Size Reflector, In.	12	14	16	18

CROUSE-HINDS VAPORTIGHT INDUSTRIAL LIGHTING FIXTURES

TYPE VS VAPORTIGHT PORTABLE HAND LAMPS

Clamp Guard Type

Made of cast aluminum, with molded rubber handle.

Furnished with globe, guard, receptacle and three rubber bushings. Lamp receptacle has additional binding screw terminal for grounding. Cable, .250 to .625.

Cat. No.	List Each	Size Lamp Watts		Size Globe Inches
VS20	$12.80	60, 100	A21	5⅝
VS30	12.80	100	A23*	6¾

Clamp Guard Type

Made of cast aluminum, with hard wood handle.

Furnished with globe, guard, receptacle and three rubber bushings. Lamp receptacle has additional binding screw terminal for grounding. Cable, .250 to .625.

Cat. No.	List Each	Size Lamp Watts		Size Globe Inches
VS91	$12.80	60, 100	A21	5⅝
VS92	12.80	100	A23*	6¾

GUARDS FOR TYPE VS VAPORTIGHT PORTABLE HAND LAMPS

Made of steel wire.

Clamp Guard

Clamp Guard Type

Cat. No.	List Each	For Globe Inches
VS95	$4.00	5⅝
VS97	4.00	6¾

GLOBES FOR TYPE VS VAPORTIGHT PORTABLE HAND LAMPS

Clear

Size In.	Plain No.	Plain Each	Heat-Resisting No.	Heat-Resisting Each
5⅝	V18	$1.60	V183	$2.50
*6¾	V75	1.60	V63	2.50

SAFETY HAND LAMPS

Types LPG and LPH

Type LPG24

Take 15 to 100-watt lamps.

Seasoned maple handle, black enameled.

Aluminum alloy guard and half shade.

No.	Each
LPG24, with Guard	$6.00
LPH24, with Guard and Half Shade	6.30

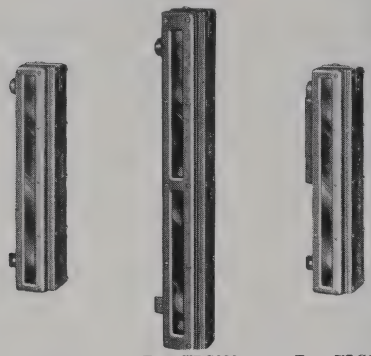
Type LPH24

*Will take lamps with maximum dimensions of 6½ inches long and 2⅞ inches diameter.

CROUSE-HINDS INDUSTRIAL LIGHTING FIXTURES

TYPE VLG GAUGE LIGHTING FIXTURES

Take T8 Lumiline or T8 Fluorescent lamps, 110-125 volts. Hub sizes: ¾ inch.



Type VLG260 Type VLG280 Type VLG215

Cat. No.	List Each	Lamp	Size
VLG260	$36.00	1 Lumiline	60-Watt—18"
VLG280	55.00	2 Lumiline	40-Watt—12"
VLG215	54.00	1 Fluorescent With Starter and Ballast for 110-125 Volts A.C. 60 Cycles	15-Watt—18"

TYPE LG GAUGE LAMPS

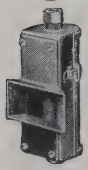
Take 10-watt S14 bulb or 15-watt A15 or A17 bulb lamps.

Cast aluminum. Furnished with lamp receptacle with lamp grip.

Also, obtainable for round flexible cable and flexible conduit or armored cable (as shown in the illustrations) at the same prices; information on request.

Water Glass Lamps Lubricator Lamps

Vertical Slot Cat. No.	List Each	Size Rigid Conduit	13-Inch Slot† Cat. No.	List Each
LG21	$7.00	½	LG31	$10.00



Multiple Steam and Air Gauge Lamps Rectangular Opening

Cat. No.	List Each	Size Rigid Conduit
LG61	$8.50	½

Single Steam and Air Gauge Lamps Round Opening

Cat. No.	List Each	Size Rigid Conduit
LG11	$7.00	½

†25-watt type T8 lamp can be used.

CROUSE-HINDS FIXTURE HANGERS

EC SERIES FLEXIBLE LIGHTING FIXTURE SUPPORTS

Explosion-Proof, Dust-Tight, and Watertight
Class I, Group D; Class II, Groups E, F, and G; and Class III

The 1947 National Electrical Code requires the use of flexible member for fixture stems longer than 12 inches. This flexible member must not be more than 12 inches from the point of attachment to the supporting Condulet. (Section 5019 N.E.C.)

½-inch EC series flexible fixture supports are also suitable for Class I, Group C locations. ¾-inch supports, suitable for Class I, Group C locations, can be supplied and are made up using heavier flexible tubing. Add suffix DB to the catalog numbers and **$0.60** per inch of flexible length.

Type ECJF Type ECHF

Flexible Lgth.†	Size Nipple	Two Female Nipples Cat. No. ECJF-	Overall Lgth.	List Each	Two Male Nipples Cat. No. ECHF-	Overall Lgth.	List Each
	½	14	8"	$11.50	14	8"	$10.90
4"	¾	24	8"	14.40	24	8"	13.40
	½	16	10"	12.50	16	10"	11.90
6"	¾	26	10"	15.80	26	10"	14.80
	½	18	12"	13.50	18	12"	12.90
8"	¾	28	12"	17.20	28	12"	16.20

Type ECGF Type ECKF

		One Female Nipple, One Male Nipple ECGF-			One Female Union, One Male Nipple ECKF-		
	½	14	8"	$11.20	----	-----	----------
4"	¾	24	8"	13.90	24	8¼"	$14.70
	½	16	10"	12.20	----	-----	----------
6"	¾	26	10"	15.30	26	10¼"	16.10
	½	18	12"	13.20	----	-----	----------
8"	¾	28	12"	16.70	28	12¼"	17.50

Type ECF

For use with pendent lighting fixtures having 1¼-inch hubs. Has two male nipples; flexible body is ¾" size.

		ECF-					
6"	1¼	44	12"	$20.00	----	-----	----------

Type EFHC

For EVA, EVF, and DLA Pendent Fixtures Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)
Class I, Groups C and D; Class II, Groups E, F, and G; and Class III

Size Hub	Size Fixture Stem	Cat. No.	List Each
	½	EFHC2601	$9.70
¾	¾	EFHC2602	9.70
	½	EFHC3601	10.00
1	¾	EFHC3602	10.00

Accessories for Type EFHC

Connection Block—Porcelain 2-Wire 20-A., 125-V.	CB308	$0.60

Suspension attachment for type EFHC Condulets can be furnished for ⅜" max. dia. supporting rod or span wires. Add suffix S1 to Cat. No. and **$0.40** to list price.

†EC series flexible fixture supports can be furnished with longer flexible lengths. Prices and catalog numbers on application.

AL SERIES FLEXIBLE FIXTURE HANGER CONDULETS

For Pendent Fixtures

AL series Condulets provide a flexible suspension for electrical fixtures. The fixtures are suspended from a universal joint which assures that the fixture will hang plumb.

This universal joint permits the fixture to swing through an angle of about 20 degrees in any direction from the perpendicular.

Type ALA Ball

Type ALA Ball Hangers

Cat. No.	List Each	Wt. Fixture Lbs.	THREADED Size, In. Fixture Stem	Conduit
Thick-Wall				
ALA1	$1.30	.....	½	½
ALA21	1.50	.....	½	¾
ALA22	1.70	.....	¾	¾

Type ALA Cushion

Type ALA Cushion Hangers

ALA14	$2.80	3	½	½
ALA214	3.00	to	½	¾
ALA224	3.20	6	¾	¾
ALA18	2.80	6	½	½
ALA218	3.00	to	½	¾
ALA228	3.20	12	¾	¾
ALA116	2.80	12	½	½
ALA2116	3.00	to	½	¾
ALA2216	3.20	24	¾	¾

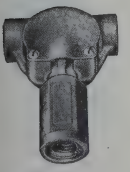
Type ALC Ball

Type ALC Ball Hangers

ALC1	$1.50	.....	½	½
ALC21	1.70	.....	½	¾
ALC31	1.90	.....	½	1
ALC22	1.90	.....	¾	¾
ALC32	2.10	.....	¾	1

Type ALC Cushion Hangers

ALC14	$3.00	3	½	½
ALC214	3.20	to	½	¾
ALC314	3.40	6	½	1
ALC224	3.40		¾	¾
ALC324	3.60		¾	1
ALC18	3.00	6	½	½
ALC218	3.20	to	½	¾
ALC318	3.40	12	½	1
ALC228	3.40		¾	¾
ALC328	3.60		¾	1
ALC116	3.00	12	½	½
ALC2116	3.20	to	½	¾
ALC3116	3.40	24	½	1
ALC2216	3.40		¾	¾
ALC3216	3.60		¾	1



Type ALC Cushion

CONNECTION BLOCK
For AL Series Fixture Hanger Condulets

20 Amperes, 125 Volts

Description	Material	Cat. No.	List Each
2-Wire	Porcelain	CB308	$0.60

AL SERIES FLEXIBLE FIXTURE HANGER SUSPENSION ATTACHMENT

For Horizontal Span Wire or Vertical Support Rod

AL series flexible fixture hanger Condulets can be furnished with a malleable iron loop fastened to the top of the Conduit body to provide means for suspending fixtures from vertical support rods or horizontal span wires. The loop will take a wire or cable with a maximum diameter of ⅜ of an inch. The boss on the top of the loop is tapped ⅜—16, for a threaded rod.

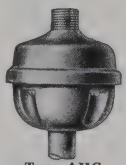
When this suspension attachment is required, add suffix S1 to the AL series catalog number and **$0.40** to the list price.

Cushion Hangers for fixtures weighing up to 64 lbs. can be furnished. Information on request.

CROUSE-HINDS FIXTURE HANGERS

TYPE AHG VAPORTIGHT FLEXIBLE CUSHION FIXTURE HANGERS

For Pendent Fixtures



Type AHG Cushion

Cat. No.	List Each	Wt. Fixture Lbs.	Size, In. Fixture Stem	Male Nipple
AHG11102	$2.90	2 to	½	½
AHG21102	3.00	4	½	¾
AHG11103	2.90	4 to	½	½
AHG21103	3.00	8	½	¾
AHG11104	2.90	8 to	½	½
AHG21104	3.00	16	½	¾
AHG11111	2.90	16 to	½	½
AHG21111	3.00	30	½	¾

TYPES UNJ AND UNJC

For supporting pendent fixtures so that they will always hang plumb, even though supported from an inclined surface.

They will allow the fixture to swing through an angle of 20° in any direction from the perpendicular.

Type UNJ Ball Hangers

Cat. No.	List Each	Stem In.	Hub In.
UNJ1308	$1.30	⅜	½
UNJ1	1.30	½	½
UNJ2308	1.50	⅜	¾
UNJ21	1.50	½	¾
UNJ2	1.50	¾	¾

Type UNJ Ball

Type UNJC Cushion Hangers

Provided with spring which carries the weight of the fixture and absorbs any shocks due to vibration or other causes.

Type UNJC Cushion

Cat. No.	List Each	Stem In.	Male Nipple In.	Fixture Weight Pounds
UNJC12	$2.70	½	½	1½–3
UNJC22	3.20	¾	¾	1½–3
UNJC14	2.70	½	½	3–6
UNJC24	3.20	¾	¾	3–6
UNJC18	2.70	½	½	6–12
UNJC28	3.20	¾	¾	6–12
UNJC116	2.70	½	½	12–24
UNJC216	3.20	¾	¾	12–24
UNJC132	2.90	½	½	24–48
UNJC232	3.40	¾	¾	24–48

TYPE GS FLEXIBLE FIXTURE HANGERS
For GS Series Condulets—For Pendent Fixtures

Vaportight Cat. No. GS-	List Each	Weight Fixture Lbs.	Size Fixture Stem	Cat. No. GS-	List Each
1302	$2.70	2 to 4	½	1064	$2.30
1303	2.70	4 to 8	½	1066	2.30
1304	2.70	8 to 16	½	1067	2.30
1311	2.70	16 to 30	½	1068	2.30

TYPE ARB

For use on concealed conduit systems. Provide flexible suspension for pendent fixtures with ½-inch conduit stem.

Fastening screws spaced 3½ inches center to center are provided for use on standard 4-inch outlet boxes.

Type ARB Ball

Ball Hanger

Cat. No.	List Each	Size In.
ARB6	$1.60	½

Type ARB Cushion

Cushion Hangers

Cat. No.	List Each	Fixture Weight Pounds
ARB14	$1.90	2–4
ARB8	1.90	4–8
ARB10	1.90	8–16
ARB12	1.90	16–30

FIXTURE HANGER CONDULETS

Type UNH Rigid Hangers

Male

Size Fix. Stem In.	Male Cat. No.	Male List Each	Female Cat. No.	Female List Each
½	UNH16	$0.60	UNH1	$0.50
¾	UNH26	.70	UNH2	.60

Female

Type UNHC Cushion Hangers

Cat. No.	List Each	Wt. Fixture, Lbs.	Size Fixture Stem
UNHC12	$1.50	1½ to	½
UNHC22	1.60	3	¾
UNHC14	1.50	3 to	½
UNHC24	1.60	6	¾
UNHC18	1.50	6 to	½
UNHC28	1.60	12	¾
UNHC116	1.50	12 to	½
UNHC216	1.60	24	¾
UNHC132	1.50	24 to	½
UNHC232	1.60	48	¾
UNHC164	1.50	48 to	½
UNHC264	1.60	64	¾

Type UNE Fixture Loops

Male

Size Fix. Stem In.	Male Cat. No.	Male List Each	Female Cat. No.	Female List Each
½	UNE16	$0.60	UNE1	$0.50
¾	UNE26	.70	UNE2	.60

Female

Type FOH Fixture Hanger Equipment
For Fluorescent Lighting Fixtures

Used to suspend a fluorescent lighting fixture from a regular threaded conduit hub of an Obround, FS or other Condulet in an overhead conduit line. A receptacle cover on the Condulet and a flexible cord with attachment plug on the fixture provide a convenient means for quickly connecting or disconnecting the fixture.

Size of Conduit Hub and Connector	Yoke, Connector, Two Chains, Hooks and Cord Clips Cat. No.	Yoke, Connector, Two Chains, Hooks and Cord Clips List Each	Yoke, Connector and Cord Clips without Chains and Hooks* Cat. No.	Yoke, Connector and Cord Clips without Chains and Hooks* List Each
½	FOH122	$2.80	FOH120	$2.00
¾	FOH222	2.90	FOH220	2.10
1	FOH322	3.00	FOH320	2.20

Type OSA Suspension Hangers

Cat. No.	List Each	Size Conduit	Max. Dia. Span Wire	Support Rod Tap
OSA3	$1.00	½	⅜	⅜–16
OSA3	1.00	¾		
OSA3	1.00	1		
OSA4	1.15	1¼		

Type CHS Suspension Clamps

Cat. No.	List Each	Size Conduit	Max. Dia. Span Wire
CHS143	$0.45	½	⅜
CHS243	.60	¾	
CHS343	.75	1	

*⅛ inch diameter rods with hooks formed on the ends to engage yoke and fixture may be used in place of chains, if desired.

CROUSE-HINDS PLUGS AND RECEPTACLES

TYPES CES AND CESD DELAYED ACTION ARKTITE PLUG RECEPTACLE CONDULETS

Explosion-Proof—Class I, Group D*
Includes Condulet, Receptacle, and Receptacle Housing—Takes Type CPH Plugs
Style 2—Grounded Through Extra Pole and Shell

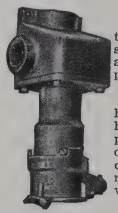
Interchangeability: Types AP and APJ **Arktite** circuit-breaking plugs cannot be used with types CES and CESD delayed action **Arktite** receptacles. Type CPH delayed action **Arktite** plugs, however, can be used with regular style 2 **Arktite** receptacles of the same rating and pole arrangement. This fact may be utilized in a plant having hazardous and non-hazardous locations as follows:

Types CES or CESD delayed action receptacle Condulets can be installed in the hazardous areas.

Regular Style 2 **Arktite** receptacles rated 30 or 60 amperes, 2-wire, 3-pole or 3-wire, 4-pole can be installed in non-hazardous areas.

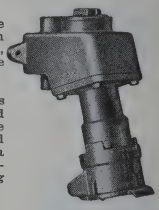
Portable equipment suitable for use in the hazardous areas may be equipped with type CPH delayed action plugs. Such equipment may then be used anywhere in the plant, including the non-hazardous areas.

Portable equipment not suitable for use in such areas may be equipped with regular types AP and APJ **Arktite** plugs and such equipment can then be used in any non-hazardous location in the plant, but there is complete assurance that it cannot be connected to a receptacle in the hazardous areas.



Type CES Condulets have three hubs, one on each side and one at the top, and two threaded pipe plugs.

Type CESD Condulets have vertical through feed hubs and one threaded pipe plug. There is a threaded opening in the top with a cover which may be removed to facilitate pulling wires.



Size Hubs	Circuit	Phases	Max. H.P.	Max. Amps.	Volts at 60 Cy. A.C.	Cat. No. CES-CESD-	List Each
¾	2-Wire	1	½	7	460	2213	$47.00
	3-Pole		1½	30	115 to 230		47.00
¾	3-Wire	3	1	7	460	2214	50.00
	4-Pole		3	30	115 to 230		50.00
1¼	2-Wire	1	3	30	460	4233	59.00
	3-Pole			60	115 to 230		59.00
1¼	3-Wire	3	5	30	460	4234	66.00
	4-Pole			60	115 to 230		66.00

Type CPH Plugs

For Types CES and CESD Receptacle Equipment. Furnished with Mechanical Cable Grip and Rubber Bushing.

Circuit	Ph.	Max. H.P.	Max. Aps.	Volts at 60 Cy. A.C.	Diameter Cable	Cat. No. CPH-	List Each
2-W.	1	½	7	460	.375- .875	7713	$22.00
3-P.		1½	30	115-230	.875-1.375	7913	22.00
3-W.	3	1	7	460	.375- .875	7714	23.50
4-P.		3	30	115-230	.875-1.375	7914	23.50
2-W.	1	3	30	460	.500- .875	7733	26.00
3-P.			60	115-230	.875-1.375	7933	26.00
3-W.	3	5	30	460	.500- .875	7734	28.00
4-P.			60	115-230	.875-1.375	7934	28.00

*Type CES receptacle Condulets and type CPH plugs are also suitable for Class I, Group C.

CROUSE-HINDS PLUGS AND RECEPTACLES

TYPE CPS DELAYED ACTION ARKTITE PLUG RECEPTACLE EQUIPMENT

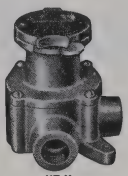
Explosion-Proof

Class I, Groups C and D

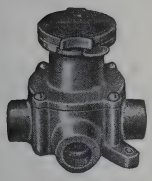
Includes Condulet and Receptacle—Takes Type CPP Plugs. 2-Wire, 3-Pole—15-Ampere or 1 H.P., 115 or 230-Volt, 60-Cycle A.C.

Dead End

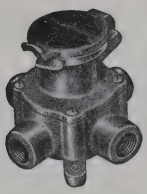
Through Feed



"L"



"T"



"X"

Hub Arrangement	Size Hub	Complete Cat. No. CPS-	Complete List Each	Body Only Cat. No. CPS-	Body Only List Each
Dead End	½	14–120	$25.80	120	$2.30
	¾	14–20	26.10	20	2.60
Through Feed	½	14–121	26.10	121	2.60
	¾	14–21	26.50	21	3.00
"L"	½	14–122	26.10	122	2.60
	¾	14–22	26.50	22	3.00
"T"	½	14–123	26.40	123	2.90
	¾	14–23	26.90	23	3.40
"X"	½	14–124	26.70	124	3.20
	¾	14–24	27.30	24	3.80

TYPE CPP PLUGS

For Type CPS Receptacle Units

Furnished with Cable Grip and Rubber Bushing

With Molded Composition Handle

With Aluminum Handle

Cat. No. CPP-	List Each	15-Ampere or 1-H.P.	Diameter Cable	Cat. No. CPP-	List Each
312	$10.00	115 or 230-V.	.250-.375	316	$10.00
412	10.00	60-C. A.C.	.375-.500	416	10.00
512	10.00	2-W., 3-P.	.500-.625	516	10.00

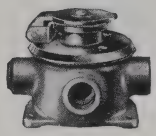
CROUSE-HINDS PLUGS AND RECEPTACLES

NON-ADJUSTABLE TYPE CPS DELAYED ACTION ARKTITE PLUG RECEPTACLE CONDULETS**

Explosion-Proof

Class I, Groups C and D

Receptacle Unit includes Receptacle with Sealed Housing and Spring Door. Takes Type CPP Plugs.



15-A., 1 H.P.—115 or 230-V., A.C.
2-Wire, 3-Pole

Size Hub	Condulet With Receptacle Unit Cat. No.	List Each	Receptacle Unit** Cat. No.	List Each
		Chromium-Plated		
¾	CPS212	$40.00	CPS212-R	$35.00
		Plain		
¾	CPS2162	28.00	CPS2162-R	23.00

REPLACEMENT PLUG RECEPTACLE UNITS**

For Replacement of Non-Explosion-Proof Plug Receptacles

Replacement Unit includes Receptacle with Sealed Housing and Spring Door. Takes Type CPP Plugs

15-A., 1 H.P.—115 or 230-V., A.C.
2-Wire, 3-Pole

	Cat. No.	List Each
Chromium Plated	CPS212-S33	$37.00
Plain	CPS2162-S33	25.00

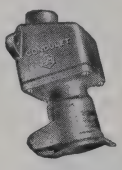
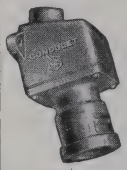
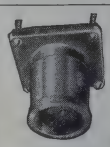
For mounting on single gang switch boxes and switch box covers.

**Non-interchangeable CPS receptacles and CPP plugs can be furnished. Information on request.

CROUSE-HINDS ARKTITE PLUGS AND RECEPTACLES

Weather Resistant (Raintight)*

20, 30, and 60-Ampere—250 Volts D.C., 600 Volts A.C.

Type ARE Receptacle Equipment†						Type APJ Plugs		Type AR Receptacle Housings				
Style 1—Grounded Through Shell. Style 2—Grounded Through Extra Pole and Shell.						Receptacles will take any of the plugs grouped in the bracket opposite the receptacle listings.						Condulet Body†
Description		Spring Door		Plain		With Mechanical Cable Grip and Rubber Bushing‡		Spring Door		Plain		
		Cat. No.	List	Cat. No.	List	Dia. Cable	Cat. No. List	Cat. No.	List	Cat. No.	List	
20-Ampere—Style 1*												
2-Wire, 2-Pole*	½ ¾	ARE2211 ARE2212	$12.90 13.10	ARE2231 ARE2232	$11.50 11.70	.250 to .500 .500 to .875	APJ2251 $11.00 APJ2253 11.00	AR221	$10.90	AR223	$ 9.50	For AR Series, Form B
30-Ampere—Style 1												
2-Wire, 2-Pole	½ ¾	ARE3211 ARE3212	$14.50 14.70	ARE3231 ARE3232	$13.10 13.30	.500 to .875 .875 to 1.375	APJ3253 $12.30 APJ3255 12.30	AR321	$12.50	AR323	$11.10	
3-Wire, 3-Pole	¾ 1	ARE3312 ARE3313	15.70 15.90	ARE3332 ARE3333	14.30 14.50	.500 to .875 .875 to 1.375	APJ3353 13.60 APJ3355 13.60	AR331	13.50	AR333	12.10	
4-Wire, 4-Pole	¾ 1	ARE3412 ARE3413	17.30 17.50	ARE3432 ARE3433	15.90 16.10	.500 to .875 .875 to 1.375	APJ3453 15.20 APJ3455 15.20	AR341	15.10	AR343	13.70	
5-Wire, 5-Pole	1	ARE3513	19.90	ARE3533	18.50	.500 to .875	APJ3553 17.70	AR351	17.50	AR353	16.10	
30-Ampere—Style 2												
2-Wire, 3-Pole	¾ 1	ARE3322 ARE3323	$17.70 17.90	ARE3342 ARE3343	$16.30 16.50	.500 to .875 .875 to 1.375	APJ3363 $15.60 APJ3365 15.60	AR332	$15.50	AR334	$14.10	
3-Wire, 4-Pole	¾ 1	ARE3422 ARE3423	19.30 19.50	ARE3442 ARE3443	17.90 18.10	.500 to .875 .875 to 1.375	APJ3463 17.20 APJ3465 17.20	AR342	17.10	AR344	15.70	
4-Wire, 5-Pole	1	ARE3523	23.00	ARE3543	21.60	.500 to .875	APJ3563 21.00	AR352	20.60	AR354	19.20	
60-Ampere—Style 1												
2-Wire, 2-Pole	1 1¼	ARE6213 ARE6214	$23.30 23.50	ARE6233 ARE6234	$20.80 21.00	.500 to .875 .875 to 1.375	APJ6253 $17.50 APJ6255 17.50	AR621	$20.00	AR623	$17.50	For AR and AJ Series, Form C
3-Wire, 3-Pole	1 1¼	ARE6313 ARE6314	25.30 25.50	ARE6333 ARE6334	22.80 23.00	.500 to .875 .875 to 1.375	APJ6353 19.00 APJ6355 19.00	AR631	22.00	AR633	19.50	
4-Wire, 4-Pole	1¼ 1½	ARE6414 ARE6415	29.50 29.70	ARE6434 ARE6435	27.00 27.20	.500 to .875 .875 to 1.375	APJ6453 21.00 APJ6455 21.00	AR641	26.00	AR643	23.50	
60-Ampere—Style 2												
2-Wire, 3-Pole	1 1¼	ARE6323 ARE6324	$27.80 28.00	ARE6343 ARE6344	$25.30 25.50	.500 to .875 .875 to 1.375	APJ6363 $21.50 APJ6365 21.50	AR632	$24.50	AR634	$22.00	
3-Wire, 4-Pole	1¼ 1½	ARE6424 ARE6425	32.00 32.20	ARE6444 ARE6445	29.50 29.70	.500 to .875 .875 to 1.375	APJ6463 23.50 APJ6465 23.50	AR642	28.50	AR644	26.00	

*20-ampere, 2-pole plugs and receptacles have binding screw terminals. All others have soldering terminals for line conductors and a pressure type terminal for the grounding conductor.

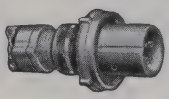
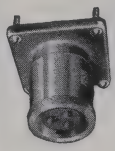
†Where other hub arrangements are desired, type AR receptacle housings can be used with Condulet bodies listed on another page.

‡Where non-watertight plugs are required, add Suffix NB to the above catalog numbers. The set of rubber bushings will then be omitted at the following reductions in list prices: 20-A, **$0.60**; 30-A., **$1.00**; 60-A., **$1.00**. *Spring door housing only, when downwardly inclined.

CROUSE-HINDS ARKTITE PLUGS AND RECEPTACLES

Weather Resistant (Raintight)*

20, 30, and 60-Ampere—250 Volts D.C., 600 Volts A.C.

Type ARE Receptacle Equipment†					Type APJ Plugs			Type AR Receptacle Housings			
Style 1—Grounded Through Shell. Style 2—Grounded Through Extra Pole and Shell.					Receptacles will take any of the plugs grouped n the bracket opposite the receptacle listings. With Fastening Ring 						Conduit Body†
Description		Threaded		With Cap	With Mechanical Cable Grip and Rubber Bushing‡			Threaded		With Cap	
		Cat. No.	List	Cat. No. List	Dia. Cable	Cat. No.	List	Cat. No.	List	Cat. No. List	
20-Ampere—Style 1*											
2-Wire, 2-Pole*	½	ARE2251	$12.00	ARE2271 $13.60	.250 to .500	APJ2271	$12.20	AR225	$10.00	AR227 $11.60	For AR Series, Form B
	¾	ARE2252	12.20	ARE2272 13.80	.500 to .875	APJ2273	12.20				
30-Ampere—Style 1											
2-Wire, 2-Pole	½	ARE3251	$13.60	ARE3271 $15.20	.500 to .875	APJ3273	$13.50	AR325	$11.60	AR327 $13.20	
	¾	ARE3252	13.80	ARE3272 15.40	.875 to 1.375	APJ3275	13.50				
3-Wire, 3-Pole	¾	ARE3352	14.80	ARE3372 16.40	.500 to .875	APJ3373	14.80	AR335	12.60	AR337 14.20	
	1	ARE3353	15.00	ARE3373 16.60	.875 to 1.375	APJ3375	14.80				
4-Wire, 4-Pole	¾	ARE3452	16.40	ARE3472 18.00	.500 to .875	APJ3473	16.40	AR345	14.20	AR347 15.80	
	1	ARE3453	16.60	ARE3473 18.20	.875 to 1.375	APJ3475	16.40				
5-Wire, 5-Pole	1	ARE3553	19.00	ARE3573 20.60	.500 to .875	APJ3573	18.90	AR355	16.60	AR357 18.20	
30-Ampere—Style 2											
2-Wire, 3-Pole	¾	ARE3362	$16.80	ARE3382 $18.40	.500 to .875	APJ3383	$16.80	AR336	$14.60	AR338 $16.20	
	1	ARE3363	17.00	ARE3383 18.60	.875 to 1.375	APJ3385	16.80				
3-Wire, 4-Pole	¾	ARE3462	18.40	ARE3482 20.00	.500 to .875	APJ3483	18.40	AR346	16.20	AR348 17.80	
	1	ARE3463	18.60	ARE3483 20.20	.875 to 1.375	APJ3485	18.40				
4-Wire, 5-Pole	1	ARE3563	21.90	ARE3583 23.50	.500 to .875	APJ3583	22.20	AR356	19.50	AR358 21.10	
60-Ampere—Style 1											For AR and AJ Series, Form C
2-Wire, 2-Pole	1	ARE6253	$21.50	ARE6273 $23.70	.500 to .875	APJ6273	$19.50	AR625	$18.20	AR627 $20.40	
	1¼	ARE6254	21.70	ARE6274 23.90	.875 to 1.375	APJ6275	19.50				
3-Wire, 3-Pole	1	ARE6353	23.50	ARE6373 25.70	.500 to .875	APJ6373	21.00	AR635	20.20	AR637 22.40	
	1¼	ARE6354	23.70	ARE6374 25.90	.875 to 1.375	APJ6375	21.00				
4-Wire, 4-Pole	1¼	ARE6454	27.70	ARE6474 29.90	.500 to .875	APJ6473	23.00	AR645	24.20	AR647 26.40	
	1½	ARE6455	27.90	ARE6475 30.10	.875 to 1.375	APJ6475	23.00				
60-Ampere—Style 2											
2-Wire, 3-Pole	1	ARE6363	$26.00	ARE6383 $28.20	.500 to .875	APJ6383	$23.50	AR636	$22.70	AR638 $24.90	
	1¼	ARE6364	26.20	ARE6384 28.40	.875 to 1.375	APJ6385	23.50				
3-Wire, 4-Pole	1¼	ARE6464	30.20	ARE6484 32.40	.500 to .875	APJ6483	25.50	AR646	26.70	AR648 28.90	
	1½	ARE6465	30.40	ARE6485 32.60	.875 to 1.375	APJ6485	25.50				

*20-ampere, 2-pole plugs and receptacles have binding screw terminals. All others have soldering terminals for line conductors and a pressure type terminal for the grounding conductor.

†Where other hub arrangements are desired, type AR receptacle housings can be used with Condulet bodies of AR and AJ series listed on another page.

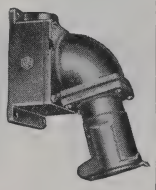
‡Where non-watertight plugs are required, add Suffix NB to the above catalog numbers. The set of rubber bushings will then be omitted at the following reductions in list prices: 20-A., **$0.60**; 30-A, **$1.00**; 60-A., **$1.00**. *Housing with threaded cap only.

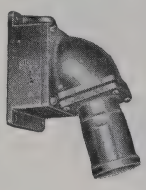
CROUSE-HINDS ARKTITE PLUGS AND RECEPTACLES

Weather Resistant (Raintight)*

60 and 100-Ampere—250 Volts D.C., 600 Volts A.C.

Style 1—Grounded Through Shell.
Style 2—Grounded Through Extra Pole and Shell.



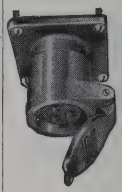


Type AREA Receptacle Equipment†

Type APJ Plugs

Receptacles will take any of the plugs grouped in the bracket opposite the receptacle listings.

Type AR Receptacle Housings



Condulet Body†

Description		Spring Door		Plain		With Mechanical Cable Grip and Rubber Bushing‡			Spring Door		Plain	
		Cat. No.	List	Cat. No.	List	Dia. Cable	Cat. No.	List	Cat. No.	List	Cat. No.	List
60-Ampere—Style 1												
2-Wire, 2-Pole	1	AREA6213	$35.40	AREA6233	$32.90	.500 to .875	APJ6253	$17.50	AR621	$20.00	AR623	$17.50
	1¼	AREA6214	35.50	AREA6234	33.00	.875 to 1.375	APJ6255	17.50				
3-Wire, 3-Pole	1	AREA6313	37.40	AREA6333	34.90	.500 to .875	APJ6353	19.00	AR631	22.00	AR633	19.50
	1¼	AREA6314	37.50	AREA6334	35.00	.875 to 1.375	APJ6355	19.00				
4-Wire, 4-Pole	1¼	AREA6414	41.50	AREA6434	39.00	.500 to .875	APJ6453	21.00	AR641	26.00	AR643	23.50
	1½	AREA6415	41.60	AREA6435	39.10	.875 to 1.375	APJ6455	21.00				
60-Ampere—Style 2												
2-Wire, 3-Pole	1	AREA6323	$39.90	AREA6343	$37.40	.500 to .875	APJ6363	$21.50	AR632	$24.50	AR634	$22.00
	1¼	AREA6324	40.00	AREA6344	37.50	.875 to 1.375	APJ6365	21.50				
3-Wire, 4-Pole	1¼	AREA6424	44.00	AREA6444	41.50	.500 to .875	APJ6463	23.50	AR642	28.50	AR644	26.00
	1½	AREA6425	44.10	AREA6445	41.60	.875 to 1.375	APJ6465	23.50				
100-Ampere—Style 1												
2-Wire, 2-Pole	1¼	AREA10214	$41.50	AREA10234	$38.50	.875 to 1.375	APJ10255	$28.00	AR1021	$26.00	AR1023	$23.00
	1½	AREA10215	41.60	AREA10235	38.60	1.375 to 1.875	APJ10257	28.00				
3-Wire, 3-Pole	1¼	AREA10314	43.50	AREA10334	40.50	.875 to 1.375	APJ10355	30.00	AR1031	28.00	AR1033	25.00
	1½	AREA10315	43.60	AREA10335	40.60	1.375 to 1.875	APJ10357	30.00				
4-Wire, 4-Pole	1½	AREA10415	47.60	AREA10435	44.60	.875 to 1.375	APJ10455	34.00	AR1041	32.00	AR1043	29.00
	2	AREA10416	47.70	AREA10436	44.70	1.375 to 1.875	APJ10457	34.00				
100-Ampere—Style 2												
2-Wire, 3-Pole	1¼	AREA10324	$46.50	AREA10344	$43.50	.875 to 1.375	APJ10365	$33.00	AR1032	$31.00	AR1034	$28.00
	1½	AREA10325	46.60	AREA10345	43.60	1.375 to 1.875	APJ10367	33.00				
3-Wire, 4-Pole	1½	AREA10425	50.60	AREA10445	47.60	.875 to 1.375	APJ10465	37.00	AR1042	35.00	AR1044	32.00
	2	AREA10426	50.70	AREA10446	47.70	1.375 to 1.875	APJ10467	37.00				

For AR and AJ Series, Form C

For AJ Series, Form D

†Type AREA Condulets are square, and can therefore be mounted with the hub at top, bottom, right or left. When through-feed hubs or other adapters are desired, type AR receptacle housings can be used with Condulet bodies of AR and AJ series listed on another page.

‡Where non-watertight plugs are required, add Suffix NB to the above catalog numbers. The set of rubber bushings will then be omitted at the following reductions in list prices: 60-A., **$1.00**; 100-A., **$1.40**.

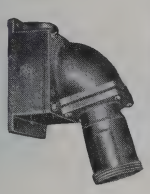
*Spring door housing only, when downwardly inclined.

CROUSE-HINDS ARKTITE PLUGS AND RECEPTACLES

Weather Resistant (Raintight)*

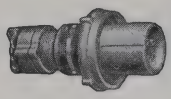
60 and 100-Ampere—250 Volts D.C., 600 Volts A.C.

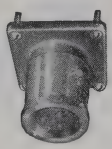
Style 1—Grounded Through Shell.
Style 2—Grounded Through Extra Pole and Shell.

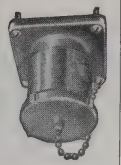


Receptacles will take any of the plugs grouped in the bracket opposite the receptacle listings.

With Fastening Ring







Description		Type AREA Receptacle Equipment† Threaded Cat. No.	List	Type AREA Receptacle Equipment† With Cap Cat. No.	List	Type APJ Plugs With Mechanical Cable Grip and Rubber Bushing‡ Dia. Cable	Cat. No.	List	Type AR Receptacle Housings Threaded Cat. No.	List	Type AR Receptacle Housings With Cap Cat. No.	List	
60-Ampere—Style 1													For AR and AJ Series, Form C
2-Wire, 2-Pole	1	AREA6253	$33.60	AREA6273	$ 35.80	.500 to .875	APJ6273	$19.50	AR625	$18.20	AR627	$20.40	
	1¼	AREA6254	33.70	AREA6274	35.90	.875 to 1.375	APJ6275	19.50					
3-Wire, 3-Pole	1	AREA6353	35.60	AREA6373	37.80	.500 to .875	APJ6373	21.00	AR635	20.20	AR637	22.40	
	1¼	AREA6354	35.70	AREA6374	37.90	.875 to 1.375	APJ6375	21.00					
4-Wire, 4-Pole	1¼	AREA6454	39.70	AREA6474	41.90	.500 to .875	APJ6473	23.00	AR645	24.20	AR647	26.40	
	1½	AREA6455	39.80	AREA6475	42.00	.875 to 1.375	APJ6475	23.00					
60-Ampere—Style 2													
2-Wire, 3-Pole	1	AREA6363	$38.10	AREA6383	$40.30	.500 to .875	APJ6383	$23.50	AR636	$22.70	AR638	$24.90	
	1¼	AREA6364	38.20	AREA6384	40.40	.875 to 1.375	APJ6385	23.50					
3-Wire, 4-Pole	1¼	AREA6464	42.20	AREA6484	44.40	.500 to .875	APJ6483	25.50	AR646	26.70	AR648	28.90	
	1½	AREA6465	42.30	AREA6485	44.50	.875 to 1.375	APJ6485	25.50					
100-Ampere—Style 1													For AJ Series, Form D
2-Wire, 2-Pole	1¼	AREA10254	$39.50	AREA10274	$43.50	.875 to 1.375	APJ10275	$31.00	AR1025	$24.00	AR1027	$28.00	
	1½	AREA10255	39.60	AREA10275	43.60	1.375 to 1.875	APJ10277	31.00					
3-Wire, 3-Pole	1¼	AREA10354	41.50	AREA10374	45.50	.875 to 1.375	APJ10375	33.00	AR1035	26.00	AR1037	30.00	
	1½	AREA10355	41.60	AREA10375	45.60	1.375 to 1.875	APJ10377	33.00					
4-Wire, 4-Pole	1½	AREA10455	45.60	AREA10475	49.60	.875 to 1.375	APJ10475	37.00	AR1045	30.00	AR1047	34.00	
	2	AREA10456	45.70	AREA10476	49.70	1.375 to 1.875	APJ10477	37.00					
100-Ampere—Style 2													
2-Wire, 3-Pole	1¼	AREA10364	$44.50	AREA10384	$48.50	.875 to 1.375	APJ10385	$36.00	AR1036	$29.00	AR1038	$33.00	
	1½	AREA10365	44.60	AREA10385	48.60	1.375 to 1.875	APJ10387	36.00					
3-Wire, 4-Pole	1½	AREA10465	48.60	AREA10485	52.60	.875 to 1.375	APJ10485	$40.00	AR1046	33.00	AR1048	37.00	
	2	AREA10466	48.70	AREA10486	52.70	1.375 to 1.875	APJ10487	40.00					

Condulet Body†

†Type AREA Condulets are square, and can therefore be mounted with the hub at top, bottom, right or left. When through-feed hubs or other adapters are desired, type AR receptacle housings can be used with Condulet bodies of AR and AJ series listed on another page.

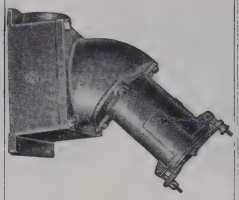
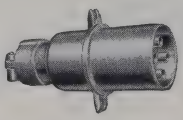
‡Where non-watertight plugs are required, add Suffix NB to the above catalog numbers. The set of rubber bushings will then be omitted at the following reductions in list prices: 60-A, **$1.00**; 100-A, **$1.40.**

*Housing with threaded cap only.

CROUSE-HINDS ARKTITE PLUGS AND RECEPTACLES

Weather Resistant (Raintight)

200-Ampere—250 Volts D.C., 600 Volts A.C.

Type AREA Receptacle Equipment†				Type AP Plugs			Type AR Receptacle Housings	
Style 1—Grounded Through Shell. Style 2—Grounded Through Extra Pole and Shell.				Receptacles will take any of the plugs grouped in the bracket opposite the receptacle listings. 				
Description	Clamp Cover			With Mechanical Cable Grip and Rubber Bushing			Clamp Cover	
	Cat. No.		List	Dia. Cable	Cat. No.	List	Cat. No.	List
200-Ampere—Style 1								
2-Wire, 2-Pole	1½	AREA20215	$87.90	.875 to 1.375	AP20255	$50.00	AR2021	$60.00
	2	AREA20216	88.10	1.375 to 1.875	AP20257	50.00		
				1.875 to 2.500	AP20258	50.00		
3-Wire, 3-Pole	1½	AREA20315	$89.90	.875 to 1.375	AP20355	$52.00	AR2031	$62.00
	2	AREA20316	90.10	1.375 to 1.875	AP20357	52.00		
	2½	AREA20317	90.30	1.875 to 2.500	AP20358	52.00		
4-Wire, 4-Pole	2	AREA20416	$96.10	.875 to 1.375	AP20455	$58.00	AR2041	$68.00
	2½	AREA20417	96.30	1.375 to 1.875	AP20457	58.00		
				1.875 to 2.500	AP20458	58.00		
200-Ampere—Style 2								
2-Wire, 3-Pole	1½	AREA20325	$93.90	.875 to 1.375	AP20365	$56.00	AR2032	$66.00
	2	AREA20326	94.10	1.375 to 1.875	AP20367	56.00		
	2½	AREA20327	94.30	1.875 to 2.500	AP20368	56.00		
3-Wire, 4-Pole	1½	AREA20425	$ 99.90	.875 to 1.375	AP20465	$62.00	AR2042	$72.00
	2	AREA20426	100.10	1.375 to 1.875	AP20467	62.00		
	2½	AREA20427	100.30	1.875 to 2.500	AP20468	62.00		

Condulet Body†

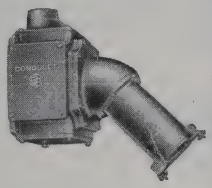
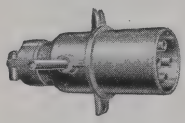
For AJ Series, Form E

†Type AREA Condulets are square and can therefore be mounted with the hub at top, bottom, right or left.

CROUSE-HINDS ARKTITE PLUGS AND RECEPTACLES

Weather Resistant (Raintight)

400-Ampere—250 Volts D.C., 600 Volts A.C.

Type AREX Receptacle Equipment†				Type AP Plugs			Type AR Receptacle Housings		
Style 1—Grounded Through Shell. Style 2—Grounded Through Extra Pole and Shell.				Receptacles will take any of the plugs grouped in the bracket opposite the receptacle listings. 					Condulet Body†
Description	Clamp Cover			With Mechanical Cable Grip and Rubber Bushing			Clamp Cover		
	Cat. No.		List	Dia. Cable	Cat. No.	List	Cat. No.	List	
400-Ampere—Style 1—Soldering recess takes .84″ maximum conductor size‡									
2-Wire, 2-Pole	2	AREX40216	$203.80	1.375 to 1.875	AP40257	$100.00	AR4021	$120.00	
	2½	AREX40217	204.30	1.875 to 2.500	AP40258	100.00			
	3	AREX40218	204.80						
3-Wire, 3-Pole	2½	AREX40317	212.30	1.375 to 1.875	AP40357	108.00	AR4031	128.00	
	3	AREX40318	212.80	1.875 to 2.500	AP40358	108.00			
4-Wire, 4-Pole	2½	AREX40417	240.30	1.375 to 1.875	AP40457	126.00	AR4041	156.00	
	3	AREX40418	240.80	1.875 to 2.500	AP40458	126.00			
400-Ampere—Style 2—Soldering recess takes .84″ maximum conductor size‡									
2-Wire, 3-Pole	2	AREX40326	$221.80	1.375 to 1.875	AP40367	$118.00	AR4032	$138.00	
	2½	AREX40327	222.30	1.875 to 2.500	AP40368	118.00			
	3	AREX40328	222.80						
3-Wire, 4-Pole	2½	AREX40427	250.30	1.375 to 1.875	AP40467	136.00	AR4042	166.00	
	3	AREX40428	250.80	1.875 to 2.500	AP40468	136.00			
400-Ampere—Style 1—Soldering recess takes 1.25″ maximum conductor size‡									
2-Wire, 2-Pole	3	AREX402128	$228.80	2.500 to 3.000	AP402510	$150.00	AR40212	$144.00	
	3½	AREX402129	229.30	3.000 to 3.500	AP402512	150.00			
	4	AREX4021210	229.80						
3-Wire, 3-Pole	3	AREX403128	254.80	2.500 to 3.000	AP403510	176.00	AR40312	170.00	
	3½	AREX403129	255.30	3.000 to 3.500	AP403512	176.00			
	4	AREX4031210	255.80						
4-Wire, 4-Pole	4	AREX4041210	299.80	2.500 to 3.000	AP404510	220.00	AR40412	214.00	
	4½	AREX4041211	300.30	3.000 to 3.500	AP404512	220.00			
	5	AREX4041212	300.80						
400-Ampere—Style 2—Soldering recess takes 1.25″ maximum conductor size‡									
2-Wire, 3-Pole	3	AREX403228	$268.80	2.500 to 3.000	AP403610	$190.00	AR40322	$184.00	
	3½	AREX403229	269.30	3.000 to 3.500	AP403612	190.00			
	4	AREX4032210	269.80						
3-Wire, 4-Pole	4	AREX4042210	313.80	2.500 to 3.000	AP404610	234.00	AR40422	228.00	
	4½	AREX4042211	314.30	3.000 to 3.500	AP404612	234.00			
	5	AREX4042212	314.80						

For AJ Series and AJX with angle adapter, Form F

†Type AREX Condulet is a type AJX body with three blank plates and a one-hub plate. Other styles and sizes of conduit hub plates of the YYP9 series can be substituted at the difference in the list prices.

‡The wire and soldering recess sizes will determine the catalog numbers of the plug and of the receptacle to be used. Complete information on request.

AR SERIES CONDULETS

AR Series Condulets take Arktite receptacle housings.

Type ARRH

Size In.	Form B Condulets Take 20 and 30-Amp. Housings No.	Each	Form C Condulets Take 60-Amp. Housings No.	Each
½	ARRH13	$1.80	ARRH16	$2.60
¾	ARRH23	2.00	ARRH26	2.80
1	ARRH33	2.20	ARRH36	3.00
1¼	.....	.....	ARRH46	3.20
1½	.....	.....	ARRH56	3.40

Type ARRC

½	ARRC13	$2.00	ARRC16	$2.80
¾	ARRC23	2.20	ARRC26	3.00
1	ARRC33	2.40	ARRC36	3.20
1¼	.....	.....	ARRC46	3.40
1½	.....	.....	ARRC56	3.60

Type ARE

½	ARE13	$2.00	ARE16	$2.90
¾	ARE23	2.20	ARE26	3.10
1	ARE33	2.40	ARE36	3.30
1¼	.....	.....	ARE46	3.50
1½	.....	.....	ARE56	3.70

Type ARDF

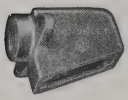
½	ARDF13	$2.30	ARDF16	$3.20
¾	ARDF23	2.50	ARDF26	3.40
1	ARDF33	2.70	ARDF36	3.60
1¼	.....	.....	ARDF46	3.80
1½	.....	.....	ARDF56	4.00

Type ARJ

½	ARJ13	$2.60	ARJ16	$3.50
¾	ARJ23	2.80	ARJ26	3.70
1	ARJ33	3.00	ARJ36	3.90
1¼	.....	.....	ARJ46	4.10
1½	.....	.....	ARJ56	4.30

Type ARD

½	ARD13	$2.90	ARD16	$3.80
¾	ARD23	3.10	ARD26	4.00
1	ARD33	3.30	ARD36	4.20
1¼	.....	.....	ARD46	4.40
1½	.....	.....	ARD56	4.60



Type ARJG

½	ARJG13	$2.40	ARJG16	$3.40
¾	ARJG23	2.60	ARJG26	3.60
1	ARJG33	2.80	ARJG36	3.80
1¼	.....	.....	ARJG46	4.00
1½	.....	.....	ARJG56	4.20

Type ARJK

½	ARJK13	$2.00	ARJK16	$2.90
¾	ARJK23	2.20	ARJK26	3.10
1	ARJK33	2.40	ARJK36	3.30
1¼	.....	.....	ARJK46	3.50
1½	.....	.....	ARJK56	3.70

Type ARJP

½	ARJP13	$2.00	ARJP16	$2.90
¾	ARJP23	2.20	ARJP26	3.10
1	ARJP33	2.40	ARJP36	3.30
1¼	.....	.....	ARJP46	3.50
1½	.....	.....	ARJP56	3.70

Type ARRA

½	ARRA13	$1.80	ARRA16	$2.60
¾	ARRA23	2.00	ARRA26	2.80
1	ARRA33	2.20	ARRA36	3.00
1¼	.....	.....	ARRA46	3.20
1½	.....	.....	ARRA56	3.40

15° Angle Adapters

For types ARRA, ARRC, and ARRH Condulets. Adapters listed below are furnished with gaskets and take Arktite receptacle housings

.....	AR30	$3.00	AR60	$4.00

AJ SERIES CONDULETS AND CONDUIT HUB PLATES

Type AJ With 60-Ampere Straight Adapter, Form C

Size, In.	No.	Each
¾	AJ23	$14.00
1	AJ33	14.10
1¼	AJ43	14.20
1½	AJ53	14.30
2	AJ63	14.40

Type AJC With 60-Ampere Straight Adapter, Form C

¾	AJC23	$14.30
1	AJC33	14.50
1¼	AJC43	14.70
1½	AJC53	14.90
2	AJC63	15.10

Type AJ With 100-Ampere Straight Adapter, Form D

¾	AJ24	$14.80
1	AJ34	14.90
1¼	AJ44	15.00
1½	AJ54	15.10
2	AJ64	15.20

Type AJC With 100-Ampere Straight Adapter, Form D

¾	AJC24	$15.10
1	AJC34	15.30
1¼	AJC44	15.50
1½	AJC54	15.70
2	AJC64	15.90

Type AJ With 60 and 100-Ampere Angle Adapter, Forms C and D

¾	AJ27	$15.30
1	AJ37	15.40
1¼	AJ47	15.50
1½	AJ57	15.60
2	AJ67	15.70

Type AJC With 60 and 100-Ampere Angle Adapter, Forms C and D

¾	AJC27	$15.60
1	AJC37	15.80
1¼	AJC47	16.00
1½	AJC57	16.20
2	AJC67	16.40

Type AJ With 200-Ampere Angle Adapter, Form E.

Size, In.	No.	Each
1½	AJ58	$27.90
2	AJ68	28.10
2½	AJ78	28.30

Type AJ With 400-Ampere Angle Adapter, Form F

Size, In.	No.	Each
2	AJ69	$63.10
2½	AJ79	63.30
3	AJ89	63.50

TYPE AJX

Furnished with Gaskets for Hub Plates Takes Four Hub Plates

Condulet No.	Each	Rating	Adapter Series	No.	Each
AJX88	$19.10	200 Amp.	YYP8	AJ45	$12.10
AJX99	37.90	400 Amp.	YYP9	AJ245	22.40

HUB PLATES

Hub Plate

Blank Plate

Hub Size	YYP8 Series No.	Each	No.	Each
2½	YYP87	$2.30	YYP800	$0.80
	YYP9 Series			
2½	YYP97	7.50	YYP900	5.50
3	YYP98	8.00	.....	.....

CROUSE-HINDS ARKTITE EXTENSION CABLE CONNECTORS

Style 1—Grounded Through Shell With Rubber Bushing—Watertight

Style 2—Grounded Through Extra Pole and Shell With Rubber Bushing—Watertight

30, 60 and 100 Amperes 250 Volts D.C., 600 Volts A.C.

30, 60 or 100 Amperes

Diam. Cable Inches	Complete No.	Complete Each	Receptacle Only No.	Receptacle Only Each	Plug Only No.	Plug Only Each
Style 1						
30 Amperes 2-Wire, 2 Pole						
	APC-		APR-		APJ-	
.500 to .875	3253	$29.00	3253	$15.50	3273	$13.50
3-Wire, 3-Pole						
.500 to .875	3353	31.40	3353	16.60	3373	14.80
4-Wire, 4-Pole						
.500 to .875	3453	34.60	3453	18.20	3473	16.40
5-Wire, 5-Pole						
.500 to .875	3553	39.50	3553	20.60	3573	18.90
60 Amperes 2-Wire, 2-Pole						
.500 to .875	6253	45.70	6253	26.20	6273	19.50
.875 to 1.375	6255	45.70	6255	26.20	6275	19.50
3-Wire, 3-Pole						
.500 to .875	6353	49.20	6353	28.20	6373	21.00
.875 to 1.375	6355	49.20	6355	28.20	6375	21.00
4-Wire, 4-Pole						
.500 to .875	6453	55.20	6453	32.20	6473	23.00
.875 to 1.375	6455	55.20	6455	32.20	6475	23.00
100 Amperes 2-Wire, 2-Pole						
.875 to 1.375	10255	70.00	10255	39.00	10275	31.00
1.375 to 1.875	10257	70.00	10257	39.00	10277	31.00
3-Wire, 3-Pole						
.875 to 1.375	10355	74.00	10355	41.00	10375	33.00
1.375 to 1.875	10357	74.00	10357	41.00	10377	33.00
4-Wire, 4-Pole						
.875 to 1.375	10455	82.00	10455	45.00	10475	37.00
1.375 to 1.875	10457	82.00	10457	45.00	10477	37.00
Style 2						
30 Amperes 2-Wire, 3-Pole						
.500 to .875	3363	$35.40	3363	$18.60	3383	$16.80
.875 to 1.375	3365	35.40	3365	18.60	3385	16.80
3-Wire, 4-Pole						
.500 to .875	3463	38.60	3463	20.20	3483	18.40
.875 to 1.375	3465	38.60	3465	20.20	3485	18.40
4-Wire, 5-Pole						
.500 to .875	3563	45.70	3563	23.50	3583	22.20
60 Amperes 2-Wire, 3-Pole						
.500 to .875	6363	54.20	6363	30.70	6383	23.50
.875 to 1.375	6365	54.20	6365	30.70	6385	23.50
3-Wire, 4-Pole						
.500 to .875	6463	60.20	6463	34.70	6483	25.50
.875 to 1.375	6465	60.20	6465	34.70	6485	25.50
100 Amperes 2-Wire, 3-Pole						
.875 to 1.375	10365	80.00	10365	44.00	10385	36.00
1.375 to 1.875	10367	80.00	10367	44.00	10387	36.00
3-Wire, 4-Pole						
.875 to 1.375	10465	88.00	10465	48.00	10485	40.00
1.375 to 1.875	10467	88.00	10467	48.00	10487	40.00

CROUSE-HINDS TYPE BP PLUGS

For use with types BRD, BRG, BRME, BRP, BRY and plug receptacle housings. The 30-ampere plugs are arranged for soldered terminals. The 20-ampere plugs are equipped with binding screw terminals. Plugs so equipped with binding screw will not take wires larger than No. 12; consequently, these plugs are rated at 20 amperes. Otherwise, the 20 and 30-ampere plugs are exactly alike.

Grounding—Provision is made on these plugs for an extra grounding wire in the cable for grounding the frame of the portable device to the shell of the plug. The grounding or safety circuit is completed through the shell of the plug, the detent spring, the receptacle housing, and the conduit system. The detent spring in the receptacle has three branches, two of which make contact before and break contact after the main circuit contacts. This method of grounding is N. E. C. standard.

FOR FLEXIBLE CABLE

Without Clamping Nut

Furnished with cable clamp. With composition handle (non-watertight).

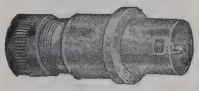
***20 Amperes, 250 Volts A.C.**

Diam. Opening in Cable Clamp, In.	2-Pole No.	2-Pole Each
†.500 to .844	BP22	$7.20

‡30 Amperes, 250 Volts A.C.

†.500 to .844	BP32	7.20

With Clamping Nut



Furnished with gland nut, tapered rubber bushing, and cast aluminum handles.

Diam. Opening in Cable Clamp, In.	2-Pole No. BP-	2-Pole Each	3-Pole No. BP-	3-Pole Each	4-Pole No. BP-	4-Pole Each
***20 Amperes, 250 Volts A.C.**						
.375 to .500	6422	$6.80	6423	$8.30	6424	$ 9.80
.500 to .625	6522	7.20	6523	8.70	6524	10.20
.625 to .750	6622	7.60	6623	9.10	6624	10.60
.750 to .875	6722	8.00	6723	9.50	6724	11.00
.875 to 1.000	.....	.....	6823	9.90	6824	11.40
‡30 Amperes, 250 Volts A.C.						
.375 to .500	6432	$6.80	6433	$8.30	6434	$ 9.80
.500 to .625	6532	7.20	6533	8.70	6534	10.20
.625 to .750	6632	7.60	6633	9.10	6634	10.60
.750 to .875	6732	8.00	6733	9.50	6734	11.00
.875 to 1.000	.....	.....	6833	9.90	6834	11.40

With Clamping Nut

Furnished with gland nut, tapered rubber bushing, and cast aluminum handles.

	BP-		BP-		BP-	
***20 Amperes, 250 Volts A.C.**						
.375 to .500	8422	$7.80	8423	$9.80	8424	$11.80
.500 to .625	8522	8.20	8523	10.20	8524	12.20
.625 to .750	8622	8.60	8623	10.60	8624	12.60
.750 to .875	8722	9.00	8723	11.00	8724	13.00
.875 to 1.000	.....	.....	8823	11.40	8824	13.40
‡30 Amperes, 250 Volts A.C.						
.375 to .500	8432	$7.80	8433	$9.80	8434	$11.80
.500 to .625	8532	8.20	8533	10.20	8534	12.20
.625 to .750	8632	8.60	8633	10.60	8634	12.60
.750 to .875	8732	9.00	8733	11.00	8734	13.00
.875 to 1.000	.....	.....	8833	11.40	8834	13.40

*Can be used on 20-ampere, 125-volt d.c. circuits; or on 20-ampere, 250-volt d.c. circuits if circuit is broken before plug is withdrawn.

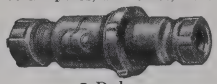
†Clamp opening ½ to 27/32 inch takes most of the 2-wire and 3-wire rubber sheathed, fabric sheathed, and deck cables No. 14 to No. 8.

‡Can be used on 25-ampere, 125-volt d.c. circuits; or on 30-ampere, 250-volt d.c. circuits if circuit is broken before plug is withdrawn.

TYPE BRC EXTENSION CABLE CONNECTORS

With Rubber Bushings (Watertight)—Cast Aluminum

***30 Amperes, 250 Volts, A.C.**



2-Pole

Diameter Cable, In.	Complete No. BRC-	Complete Each	Receptacle Only No. BRM-	Receptacle Only Each	Plug Only No. BP-	Plug Only Each
.375- .500	8432	$14.80	70432	$7.00	8432	$7.80
.500- .625	8532	15.30	70532	7.10	8532	8.20
.625- .750	8632	16.10	70632	7.50	8632	8.60
.750- .875	8732	16.90	70732	7.90	8732	9.00
3-Pole						
.375- .500	8433	$17.70	70433	$7.90	8433	$9.80
.500- .625	8533	18.20	70533	8.00	8533	10.20
.625- .750	8633	19.00	70633	8.40	8633	10.60
.750- .875	8733	19.80	70733	8.80	8733	11.00
.875-1.000	8833	20.60	70833	9.20	8833	11.40
4-Pole						
.375- .500	8434	$20.60	70434	$8.80	8434	11.80
.500- .625	8534	21.10	70534	8.90	8534	12.20
.625- .750	8634	21.90	70634	9.30	8634	12.60
.750- .875	8734	22.70	70734	9.70	8734	13.00
.875-1.000	8834	23.50	70834	10.10	8834	13.40

†TYPE BRME 30° ANGLE PLUG RECEPTACLE CONDULETS

30-A., 250-V., A.C.*

Spring Door

Without Spring Door

Threaded Cap

Size In.	No. Poles	Spring Door No. BRME-	Spring Door Each	Without Spring Door No. BRME-	Without Spring Door Each	Threaded Cap†† No. BRME-	Threaded Cap†† Each
½	2	61302	$7.50	1302	$5.00	81302	$7.30
¾	2	62302	7.70	2302	5.20	82302	7.50
¾	3	62303	8.90	2303	6.40	82303	9.60
1	3	63303	9.10	3303	6.60	83303	9.80
¾	4	62304	12.30	2304	7.80	82304	11.50
1	4	63304	12.50	3304	8.00	83304	11.70

†TYPE BRP PLUG RECEPTACLE HOUSINGS

For Outlet Boxes—Surface or Flush Mounting

25-A., 125-V. D.C.—30-A., 250-V. A.C.

For Outlet Boxes, Size	Poles	Without Spring Door No. BRP-	Without Spring Door Each	Spring Door No. BRP-	Spring Door Each	Threaded Cap†† No. BRP-	Threaded Cap†† Each
3¼	2	3023	$5.00	63023	$8.20	83023	$7.30
3¼	3	3033	6.50	63033	10.10	83033	9.70
3¼	4	3043	7.80	63043	11.80	83043	11.90
4	2	3024	5.30	63024	8.50	83024	7.60
4	3	3034	6.80	63034	10.40	83034	10.00
4	4	3044	8.10	63044	12.10	83044	12.20

*Can be used on 25-ampere, 125-volt d.c. circuits; or on 30-ampere, 250-volt d.c. circuits if circuit is broken before plug is withdrawn. †Take type BP plugs.

The 2-pole Condulets are furnished with 30-ampere, 250-volt receptacle BR2302; 3-pole Condulets are furnished with 30-ampere, 250-volt receptacle BR2303; 4-pole Condulets are furnished with 30-ampere, 250-volt receptacle BR2304.

††Furnished with Gaskets.

CROUSE-HINDS CONDULETS

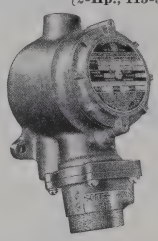
FSQ SERIES INTERLOCKED PLUG RECEPTACLE AND SWITCH CONDULET

Explosion-Proof and Dust-Tight

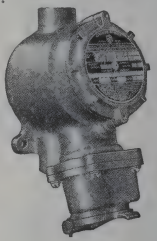
Class I, Groups C and D; Class II, Group G; and Class III

2-Wire, 3-Pole {**30-Ampere, 250-V. A.C. or D.C.** {**2-Hp., 230-V., 1-Hp., 460-V. A.C.**

3-Wire, 4-Pole {**30-Amp., 250-V. or 20-Amp., 600-V. A.C.** {**2-Hp., 115-575 V. A.C.**



Type FSQC, with Threaded Housing



Type FSQC, with Spring Door

Type FSQ

Furnished with tumbler type switch and receptacle, either with threaded housing or spring door housing.

Take FP and BP plugs.

Type FSQC

Size Hub In.	No. of Poles	*Form	Type FSQ— No.	Type FSQ— Each	Type FSQC— No.	Type FSQC— Each
		With Threaded Housing				
¾ }	2-W., 3-P.	E	232	$46.00	232	$46.00
1 }			332	46.40	332	46.40
¾ }	3-W., 4-P.	F	233	52.00	233	52.00
1 }			333	52.40	333	52.40
		With Spring Door Housing				
¾ }	2-W., 3-P.	B	230	46.00	230	46.00
1 }			330	46.40	330	46.40

*Order by number.

PLUGS FOR FSQ SERIES CONDULETS

Type FP

Type BP

Furnished with cable grip and rubber bushing. Grounded through extra pole and shell. Made of cast aluminum.

Type FP—For Threaded Housings

No.	Each	No. of Poles	Dia. Cable Ins.
FP323	$12.00	2-Wire, 3-Pole	.500 to .875
FP334	14.00	3-Wire, 4-Pole	.500 to .875

Type BP—For Spring Door Housings

BP49	12.00	2-Wire, 3-Pole	.375 to .500
BP59	12.00	2-Wire, 3-Pole	.500 to .625
BP69	12.00	2-Wire, 3-Pole	.625 to .750
BP79	12.00	2-Wire, 3-Pole	.750 to .875

Type FSQ Interlocked Receptacle and Switch Condulet

Furnished with 2-Pole Switch and 2-Wire, 3-Pole Receptacle

10-Amp., 250-V., A.C. or D.C.

2-Wire, 3-Pole

Size	Cat. No.	List Each
¾	FSQ223	$36.00

Type FP Plug For Type FSQ Condulet

Furnished with cable grip and rubber bushing. Grounded through extra pole and shell.

10-Amp., 250-V., A.C. or D.C. 2-Wire, 3-Pole

Dia. Cable	Cat. No.	List Each
.375 to .500	FP23	$8.00

CROUSE-HINDS CONDULETS

TYPE EPC CIRCUIT BREAKER CONDULET

With Interlocking Arktite Plug Receptacle

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Group G; and Class III (NEMA Types IX, V, and III)

Take Type APJ Arktite Plugs

For use wherever power outlets combined with over-current protection are required. They may be employed for supplying motor-operated portable appliances up to the maximum horsepower for which the circuit breakers are suitable.

The receptacle is so interlocked with the circuit breaker that the plug cannot be withdrawn unless the breaker is open; and the breaker cannot be closed unless the plug is fully inserted.

60-Ampere, 3-Wire, 4-Pole
Style 2 Plug Receptacle with Spring Door Housing
100-Ampere Frame Size Circuit Breaker with Non-Interchangeable Thermal Trip and Non-Adjustable Magnetic Trip

Condulet Without Circuit Breaker

Volts	Amps.	Size Hub	Cat. No.	List Each
250-V.	15 — 50	1¼	EPC46242	$150.00
	70*—100	2	EPC66342	180.00
600-V.	15 — 50	1¼	EPC46642	150.00
	70*—100	2	EPC66742	180.00

Condulet With Circuit Breaker

Size Hubs	Amps.	Westinghouse Cat. No.	Trumbull Cat. No.	List Each
250-V., A.C. or 125-250-V., D.C.—3-Pole				
		EPC-	EPC-	
	15	46242-WT15-3	46242-TT15-3	$189.80
	20	46242-WT20-3	46242-TT20-3	189.80
1¼	30	46242-WT30-3	46242-TT30-3	189.80
	40	46242-WT40-3	46242-TT40-3	189.80
	50	46242-WT50-3	46242-TT50-3	189.80
	70*	66342-WT70-3	66342-TT70-3	239.70
2	90	66342-WT90-3	66342-TT90-3	239.70
	100	66342-WT100-3	66342-TT100-3	239.70
600-V., A.C.—3-Pole				
	15	46642-WT15-3	46642-TT15-3	209.70
	20	46642-WT20-3	46642-TT20-3	209.70
1¼	30	46642-WT30-3	46642-TT30-3	209.70
	40	46642-WT40-3	46642-TT40-3	209.70
	50	46642-WT50-3	46642-TT50-3	209.70
	70*	66742-WT70-3	66742-TT70-3	257.35
2	90	66742-WT90-3	66742-TT90-3	257.35
	100	66742-WT100-3	66742-TT100-3	257.35

Type APJ Arktite Plug
With Mechanical Cable Grip and Rubber Bushing
60-Ampere, 3-Wire, 4-Pole
250-V., D.C. or 600-V., A.C.

Style	Dia. Cable	Cat. No.	List Each
2	.500 to .875	APJ6463	$23.50
	.875 to 1.375	APJ6465	23.50

*Can be furnished in smaller Condulet with 1¼ inch hubs. Prices upon application.

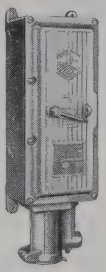
CROUSE-HINDS CONDULETS

TYPE DBR CIRCUIT BREAKER CONDULET

With Interlocking Arktite Plug Receptacle

Dust-Tight and Weather Resistant (Raintight) Class II, Group G; and Class III (NEMA Types IX, V, and III)

Take Type APJ Arktite Plugs



For use wherever power outlets combined with over-current protection are required. They may be employed for supplying motor-operated portable appliances up to the maximum horsepower for which the circuit breakers are suitable.

The receptacle is so interlocked with the circuit breaker that the plug cannot be withdrawn unless the breaker is open; and the breaker cannot be closed unless the plug is fully inserted.

60-Ampere, 3-Wire, 4-Pole
Style 2
Plug Receptacle with Spring Door Housing

100-Ampere Frame Size Circuit Breaker with Non-Interchangeable Thermal Trip and Non-Adjustable Magnetic Trip

Condulet Without Circuit Breaker

Circuit Breaker Poles and Volts	Size Hub†	Cat. No.	List Each
3-Pole, 250-V., A.C. or 125-250-V., D.C.	1½	DBR56342	$110.00
3-Pole, 600-V., A.C.	1½	DBR56742	110.00

Condulet With Circuit Breaker

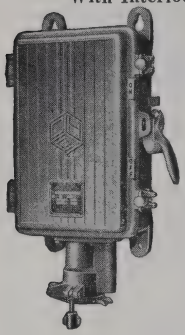
†Size Hubs	Amps.	Westinghouse Cat. No.	Trumbull Cat. No.	List Each
250-V., A.C. or 125-250-V., D.C.—3-Pole				
		DBR-	DBR-	
	15	56342-WT15-3	56342-TT15-3	$149.80
	20	56342-WT20-3	56342-TT20-3	149.80
	30	56342-WT30-3	56342-TT30-3	149.80
1½	40	56342-WT40-3	56342-TT40-3	149.80
	50	56342-WT50-3	56342-TT50-3	149.80
	70	56342-WT70-3	56342-TT70-3	169.70
	90	56342-WT90-3	56342-TT90-3	169.70
	100	56342-WT100-3	56342-TT100-3	169.70
600-V., A.C.—3-Pole				
	15	56742-WT15-3	56742-TT15-3	169.70
	20	56742-WT20-3	56742-TT20-3	169.70
	30	56742-WT30-3	56742-TT30-3	169.70
1½	40	56742-WT40-3	56742-TT40-3	169.70
	50	56742-WT50-3	56742-TT50-3	169.70
	70	56742-WT70-3	56742-TT70-3	187.35
	90	56742-WT90-3	56742-TT90-3	187.35
	100	56742-WT100-3	56742-TT100-3	187.35

†Furnished with one drilled and tapped conduit opening at the top equipped with threaded-in bushing. Removal of the bushing permits the use of the opening for the next larger size conduit. Other sizes or arrangements of conduit openings can be furnished. Prices on application.

CROUSE-HINDS CONDULETS

TYPE WMKS ENCLOSED SAFETY SWITCH CONDULET

With Interlocking Plug Receptacle



Weather Resistant (Raintight) NEMA Types III and V Take Type DP Plugs

Furnished with fusible motor circuit switch and receptacle with spring door housing. The receptacle is so interlocked with the switch that the plug cannot be withdrawn unless the switch is open; and the switch cannot be closed unless the plug is fully inserted.

230 Volts A.C., 250 Volts D.C.

Amps.	Hub Size †	H.P. Rating 230-V. A.C.	H.P. Rating 250-V. D.C.	Cat. No.	List Each
		2-Pole Fusible Switch with 2-Wire, 2-Pole, Style 1 Receptacle**			
30	¾	2	5	WMKS1632	$89.70
60	1¼	5	10	WMKS1662	102.50
100	1½	10	15	WMKS16102	216.00
200	2	15	30	WMKS16202	317.00
		2-Pole Fusible Switch with 2-Wire, 3-Pole, Style 2 Receptacle**			
30	¾	2	5	WMKS16323	$91.50
60	1¼	5	10	WMKS16623	104.50
100	1½	10	15	WMKS161023	218.00
200	2	15	30	WMKS162023	326.00
		3-Pole Fusible Switch with 3-Wire, 3-Pole, Style 1 Receptacle**			
30	1	3	....	WMKS1633	$98.80
60	1¼	7½	....	WMKS1663	115.50
100	1½	15	....	WMKS16103	236.00
200	2½	30	....	WMKS16203	344.00
		3-Pole Fusible Switch with 3-Wire, 4-Pole, Style 2 Receptacle**			
30	1	3	....	WMKS16334	$102.50
60	1¼	7½	....	WMKS16634	119.00
100	1½	15	....	WMKS161034	240.00

575 Volts A.C., 600 Volts D.C.

Amps.	Hub Size †	H.P. Rating 575-V. A.C.††	H.P. Rating 600-V. D.C.	Cat. No.	List Each
		2-Pole Fusible Switch with 2-Wire, 3-Pole, Style 2 Receptacle**			
30	¾	5	7½	WMKS163235	$106.20
60	1¼	10	15	WMKS166235	121.00
100	1½	15	25	WMKS1610235	231.00
200	2	30	50	WMKS1620235	337.00
		3-Pole Fusible Switch with 3-Wire, 3-Pole, Style 1 Receptacle**			
30	1	7½	....	WMKS16335	$113.50
60	1¼	20	....	WMKS16635	128.00
100	1½	30	....	WMKS161035	245.00
200	2½	50	....	WMKS162035	350.00
		3-Pole Fusible Switch with 3-Wire, 4-Pole, Style 2 Receptacle**			
30	1	7½	....	WMKS163345	$117.20
60	1¼	20	....	WMKS166345	133.50
100	1½	30	....	WMKS1610345	249.00

†Furnished with one drilled and tapped conduit opening at the top equipped with threaded-in bushing. Removal of the bushing permits the use of the opening for the next larger size conduit. Other sizes or arrangements of conduit openings can be furnished. Prices on application.

**Style 1—Grounded through shell. Style 2—Grounded through extra pole and shell.

††575-volt A.C. horsepower rating also applies for 440-480-volt A.C. service.

CROUSE-HINDS CONDULETS

TYPE DP INTERLOCKING PLUGS

For Use with Type WMKS Safety Switch and Interlocking Receptacle Condulets

Furnished with Clamp for Cord, Cable, Flexible Conduit, or Armored Conductor

Type DP Plug 30 to 100-Ampere

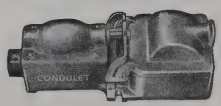
Type DP Plug 200-Ampere

Amps.	Rating Max. Volts	Style 1* Outside Dia. of Cable, Flexible Conduit or Armored Cable	2-Wire, 2-Pole Cat. No. DP-	2-Wire, 2-Pole List Each	3-Wire, 3-Pole Cat. No. DP-	3-Wire, 3-Pole List Each
30	250	.500- .875	132	$13.00	133	$14.00
		.750-1.188	332	13.00	333	14.00
30 and 60	600†	.750-1.188	162	15.00	163	16.00
		1.188-1.400	362	15.00	363	16.00
100	600†	.938-1.469	1102	28.00	1103	30.00
		1.469-1.800	3102	28.00	3103	30.00
200	600†	1.188-1.813	1202	80.00	1203	86.00
		1.750-2.563	3202	80.00	3203	86.00

Amps.	Rating Max. Volts	Style 2* Outside Dia. of Cable, Flexible Conduit or Armored Cable	2-Wire, 3-Pole		3-Wire, 4-Pole	
30	250	.500- .875	Use 600-Volt plugs listed directly below			
		.750-1.188				
			DP-		DP-	
30 and 60	600†	.750-1.188	1623	18.50	.....	.....
		1.188-1.400	3623	18.50	.....	.....
		.500- .875	.....	.....	164	23.00
		.875-1.400	.....	.....	364	23.00
100	600†	.938-1.469	11023	33.00	.....	.....
		1.469-1.800	31023	33.00	.....	.....
		1.000-1.500	.....	.....	1104	37.00
		1.500-1.800	.....	.....	3104	37.00
200	600†	1.188-1.813	12023	96.00	.....	.....
		1.750-2.563	32023	96.00	.....	.....

TYPE FSQ SAFETY SWITCH AND INTERLOCKING RECEPTACLE CONDULET

Type FSQ Condulet is furnished with Tumbler Switch, Vaportight Cover, Hubbell 3-Pole Twist Lock Receptacle, and Hubbell 3-Pole Twist Lock Plug



Size	Cat. No.	List Each
¾	FSQ28	$24.00

*Style 1—Grounded through shell. Style 2—Grounded through extra pole and shell.

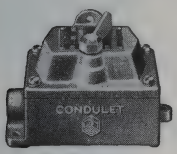
†Use with 250-volt receptacles.

CROUSE-HINDS CONDULETS
EFS AND EFD SERIES TUMBLER SWITCH CONDULETS
Explosion-Proof and Dust-Tight

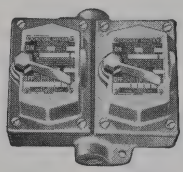
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V)

Used to enclose tumbler and push button switches, motor control push button stations, pilot lights, manual motor starters, and circuit breakers.

Furnished With Tumbler Switches



Type EFS
Single-Gang



Type EFSC
Two-Gang

Style	Amperes 125-V.	Amperes 250-V.	Max. H.P.	Size Hub	Cat. No.	List Each
Dead End—Single-Gang						
1-Pole	20T	10	..		EFS1129	$10.90
2-Pole	20T	20	2		EFS118	11.10
3-Way	15T	10	..	½	EFS1130	11.70
4-Way	10T	5	..		EFS1140	15.50
1-Pole	20T	10	..		EFS2129	11.00
2-Pole	20T	20	2		EFS218	11.20
3-Pole	10	5	½ A.C.	¾	EFS2123	13.60
3-Way	15T	10	..		EFS2130	11.80
4-Way	10T	5	..		EFS2140	15.60
Through Feed—Single-Gang						
1-Pole	20T	10	..		EFSC1129	$11.10
2-Pole	20T	20	2		EFSC118	11.30
3-Way	15T	10	..	½	EFSC1130	11.90
4-Way	10T	5	..		EFSC1140	15.70
1-Pole	20T	10	..		EFSC2129	11.30
2-Pole	20T	20	2		EFSC218	11.50
3-Pole	10	5	½ A.C.	¾	EFSC2123	13.90
3-Way	15T	10	..		EFSC2130	12.10
4-Way	10T	5	..		EFSC2140	15.90
Dead End—Two-Gang†						
1-Pole	20T	10	..	½	EFS1229	$21.80
1-Pole	20T	10	..		EFS2229	21.90
3-Way	15T	10	..	¾	EFS2230	23.50
1-Pole	20T	10	..		EFS3229	22.10
1-Pole	30T	30	..	1	EFD3691	27.20
2-Pole	20T	20	2		EFS328	22.50
3-Way	15T	10	..		EFS3230	23.70
3-Way	30T	30	..	1	EFD3694	32.20
4-Way	10T	5	..		EFS3240	31.30
4-Way	20T	10	..		EFD3690	40.20
Through Feed—Two Gang†						
1-Pole	20T	10	..		EFSC1229	$22.00
2-Pole	20T	20	2	½	EFSC128	22.40
3-Way	15T	10	..		EFSC1230	23.60
4-Way	10T	5	..		EFSC1240	31.20
1-Pole	20T	10	..		EFSC2229	22.20
2-Pole	20T	20	2		EFSC228	22.60
3-Pole	10	5	½ A.C.	¾	EFSC2223	27.40
3-Way	15T	10	..		EFSC2230	23.80
4-Way	10T	5	..		EFSC2240	31.40
1-Pole	20T	10	..		EFSC3229	22.60
1-Pole	30T	30	..		EFDC3691	27.70
2-Pole	20T	20	2		EFSC328	23.00
2-Pole	30T	30‡	2		EFDC3693	31.20
3-Pole	10	5	½ A.C.	1	EFSC3223	27.80
3-Way	15T	10	..		EFSC3230	24.20
3-Way	30T	30	..		EFDC3694	32.70
4-Way	10T	5	..		EFSC3240	31.80
4-Way	20T	10	..		EFDC3690	40.70

†Combinations of switches can be furnished. Prices on application.

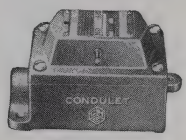
‡Also rated at 20 amperes, 600 volts.

CROUSE-HINDS CONDULETS
EFS SERIES TUMBLER SWITCH CONDULETS
Explosion-Proof and Dust-Tight

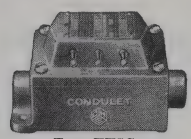
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V)

Used to enclose tumbler and push button switches, motor control push button stations, pilot lights, manual motor starters, and circuit breakers.

Furnished With Tumbler Switches



Type EFS
For Surface Mounting
Single



Type EFSC
For Surface Mounting
Triple

For Surface Mounting—Plain Finish*

Style	Amperes 125-V.	Amperes 250-V.	Size Hub	Cat. No.	List Each
Type EFS—Single					
1-Pole	10T	5		EFS1101	$10.90
2-Pole	10T	10	½	EFS1100	11.10
3-Way	10T	5		EFS1107	11.50
4-Way	5T	2		EFS1108	14.50
1-Pole	10T	5		EFS2101	11.00
2-Pole	10T	10	¾	EFS2100	11.20
3-Way	10T	5		EFS2107	11.60
4-Way	5T	2		EFS2108	14.60
Type EFSC—Single					
1-Pole	10T	5		EFSC1101	$11.10
2-Pole	10T	10		EFSC1100	11.30
3-Way	10T	5	½	EFSC1107	11.70
4-Way	5T	2		EFSC1108	14.70
1-Pole	10T	5		EFSC2101	11.30
2-Pole	10T	10	¾	EFSC2100	11.50
3-Way	10T	5		EFSC2107	11.90
4-Way	5T	2		EFSC2108	14.90
Type EFS—Duplex†					
1-Pole	10T	5	½	EFS1109	$13.90
1-Pole	10T	5		EFS2109	14.00
2-Pole	10T	10	¾	EFS2110	14.40
3-Way	10T	5		EFS2113	15.20
4-Way	5T	2	1	EFS3114	21.40
Type EFSC—Duplex†					
1-Pole	10T	5		EFSC1109	$14.10
2-Pole	10T	10	½	EFSC1110	14.50
3-Way	10T	5		EFSC1113	15.30
4-Way	5T	2		EFSC1114	21.30
1-Pole	10T	5		EFSC2109	14.30
2-Pole	10T	10	¾	EFSC2110	14.70
3-Way	10T	5		EFSC2113	15.50
4-Way	5T	2		EFSC2114	21.50
Type EFS—Triple†					
1-Pole	10T	5	½	EFS1115	$16.90
1-Pole	10T	5	¾	EFS2115	17.00
2 Pole	10T	10		EFS3116	17.80
3-Way	10T	5	1	EFS3117	19.00
Type EFSC—Triple†					
1-Pole	10T	5		EFSC1115	$17.10
2-Pole	10T	10	½	EFSC1116	17.70
1-Pole	10T	5		EFSC2115	17.30
2-Pole	10T	10	¾	EFSC2116	17.90
3-Way	10T	5		EFSC2117	19.10
4-Way	5T	2		EFSC2118	28.10

*Plain flush covers are available and can be specified by addition of suffix S173 to catalog number of surface mounting plain cover type at an additional charge of **$0.50** list, each. †Combinations of switches can be furnished. Prices on application.

CROUSE-HINDS CONDULETS

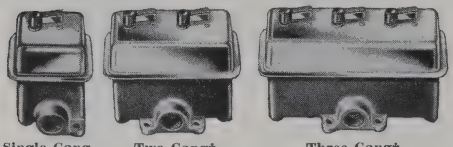
TYPE ESW TUMBLER SWITCH CONDULETS

Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX and V)

Non-Adjustable—Factory Sealed

Switch Unit Includes Tumbler Switch with Sealed Housing and Cover



Single-Gang Two-Gang† Three-Gang†

Style	Amperes 125 V.	Amperes 250 V.	Cat. No.	List Each
Single-Gang				
¾" Through-Feed Hubs—Horizontal or Vertical				
For Flush Mounting—Chromium Plated Cover				
1-Pole	10T	5	ESW2113	$21.40
2-Pole	10T	10	ESW2123	21.60
3-Way	10T	5	ESW2133	22.20
4-Way	5T	2	ESW2143	26.90
1-Pole, M.O.‡	10	5	ESW2153	24.20
1-Pole, M.C.‡	10	5	ESW2163	24.20
For Surface Mounting—Plain Finish Cover				
1-Pole	10T	5	ESW2112	$18.90
2-Pole	10T	10	ESW2122	19.10
3-Way	10T	5	ESW2132	19.70
4-Way	5T	2	ESW2142	24.40
1-Pole, M.O.‡	10	5	ESW2152	21.70
1-Pole, M.C.‡	10	5	ESW2162	21.70
Two-Gang†				
Two ¾" Hubs at Top and One ¾" Hub at Bottom—Reversible				
For Flush Mounting—Chromium Plated Cover				
1-Pole	10T	5	ESW2213	$30.90
2-Pole	10T	10	ESW2223	31.10
3-Way	10T	5	ESW2233	32.50
4-Way	5T	2	ESW2243	41.90
1-Pole, M.O.‡	10	5	ESW2253	36.50
1-Pole, M.C.‡	10	5	ESW2263	36.50
For Surface Mounting—Plain Finish Cover				
1-Pole	10T	5	ESW2212	$26.90
2-Pole	10T	10	ESW2222	27.30
3-Way	10T	5	ESW2232	28.50
4-Way	5T	2	ESW2242	37.90
1-Pole, M.O.‡	10	5	ESW2252	32.50
1-Pole, M.C.‡	10	5	ESW2262	32.50
Three-Gang†				
Two ¾" and One 1" Hubs at Top, and One 1" at Bottom—Reversible				
For Flush Mounting—Chromium Plated Cover				
1-Pole	10T	5	ESW3313	$43.40
2-Pole	10T	10	ESW3323	44.00
3-Way	10T	5	ESW3333	45.80
4-Way	5T	2	ESW3343	59.90
1-Pole, M.O.‡	10	5	ESW3353	51.80
1-Pole, M.C.‡	10	5	ESW3363	51.80
For Surface Mounting—Plain Finish Cover				
1-Pole	10T	5	ESW3312	$38.40
2-Pole	10T	10	ESW3322	39.00
3-Way	10T	5	ESW3332	40.80
4-Way	5T	2	ESW3342	54.90
1-Pole, M.O.‡	10	5	ESW3352	46.80
1-Pole, M.C.‡	10	5	ESW3362	46.80

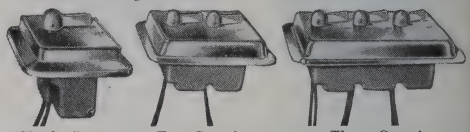
†Combinations of switches can be furnished. Prices on application. ‡Momentary contact: M.O. —normally open; M.C.—normally closed.

CROUSE-HINDS CONDULETS

TYPE ERS REPLACEMENT SWITCH UNITS

For Replacement of Non-Explosion-Proof Flush Mounted Switches in Hazardous Locations Includes Tumbler Switch with Sealed Housing and Cover

In existing buildings it is frequently impractical to remove, in their entirety, non-explosion-proof switch outlets and replace them with full explosion-proof types. In such instances, a considerable degree of safety can be had by enclosing switches in explosion-proof chambers. Type ERS replacement units provide such explosion-proof chambers, but will not bring an electrical installation into full conformity with the National Electrical Code.



Single-Gang Two-Gang† Three-Gang†

Style	Amperes 125 V.	Amperes 250 V.	Cat. No.	List Each
Single-Gang—Chromium Plated Cover				
1-Pole	10T	5	ERS41	$18.00
2-Pole	10T	10	ERS42	18.20
3-Way	10T	5	ERS43	18.80
4-Way	5T	2	ERS44	23.50
1-Pole, M.O.‡	10	5	ERS45	20.80
1-Pole, M.C.‡	10	5	ERS46	20.80
Two-Gang—Chromium Plated Cover				
1-Pole	10T	5	ERS412	$26.50
2-Pole	10T	10	ERS422	26.90
3-Way	10T	5	ERS432	28.10
4-Way	5T	2	ERS442	37.50
1-Pole, M.O.‡	10	5	ERS452	32.10
1-Pole, M.C.‡	10	5	ERS462	32.10
Three-Gang—Chromium Plated Cover				
1-Pole	10T	5	ERS413	$36.00
2-Pole	10T	10	ERS423	36.60
3-Way	10T	5	ERS433	38.40
1-Pole, M.O.‡	10	5	ERS453	44.40
1-Pole, M.C.‡	10	5	ERS463	44.40

TYPE GUSC CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Type GUSC switch Condulets have a rectangular body with a round, threaded opening in the front equipped with a threaded cover. They are furnished with through feed hubs for threaded conduit, and external mounting lugs with fastening holes, and tumbler switches.

Rating		Size Hub	Cat. No. GUSC-	List Each
1-Pole	30-Amp., 250-V.	½	1061-AH	$15.00
		¾	2061-AH	15.30
2-Pole	30-Amp., 250-V.; 2 HP, 115-230-V. AC; 1 HP, 460-V. AC	½	1052-AH	15.90
		¾	2052-AH	16.20
3-Pole	30-Amp., 250-V.; 20-Amp., 600-V. AC; 2 HP, 115-575-V. AC	¾	2013-AH	21.90
4-Pole	30-Amp., 250-V.; 20-Amp., 600-V. AC; 2 HP, 230-575-V. AC	¾	2024-AH	23.80
3-Way	30-Amp., 250-V.; 2 HP, 220-V. AC; 1 HP, 440-V AC	¾	2073-AH	26.30

†Combinations of switches can be furnished. Prices on application. ‡Momentary contact: M.O.—normally open; M.C. —normally closed.

CROUSE-HINDS CONDULETS

TYPE EMS MERCURY LIMIT SWITCH CONDULET PARTS

Type EMS Condulet

Connection Block

Glass Tube Switch

Switch Carrier

Condulet Housing With Operating Mechanism Only

Size 1 Cat. No.	Size 1 List Each	Size 2 Cat. No.	Size 2 List Each
Direct Action			
EMS33-M2	$20.00	EMS34-M2	$21.60
Snap Action			
EMS330-M2	25.00	EMS340-M2	26.60
Spring Return Clockwise (Facing Cover)			
EMS332	23.20	EMS342	24.80
Spring Return Counter-Clockwise (Facing Cover)			
EMS335	23.20	EMS345	24.80
Spring Return to Center of Travel			
EMS333	23.20	----------	----------

Connection Block

No. of Terminals		Cat. No.	List Each
3 for #14-#10 Wire	Molded Bakelite	CB641	$1.40

Mercury Switches: Nom. Size of Switch Amps.††	Ratings Amps. (Non-Inductive) 115 V. A.C. or D.C.	230 V. A.C. or D.C.	440 V. A.C.	Max. H.P. 125-V. or 250 V.-§	Cat. No.	List Each	Switch Carriers: Cat. No.	List Each
Glass Tube Switches								
4	4	2	1	⅙	SWM-241	$3.20	EMS-4-M2*	$2.40
10	10	5	3	1	210	5.70	10-M2	2.40
25	25	12½	6	2	225	11.50	25	3.70
4	4	2	1	⅙	242†	6.00	4-M2*	2.40
Metal Clad Switches††								
10	10‡	8‡	5‡	⅛	110	$3.20	5-M2*	$2.40
20	20‡	16‡	10‡	¾	120	4.30	5-M2*	2.40

*With vernier adjustment. †Double-throw. All other switches are single-throw. ‡D.C. ampere rating approximately 50% less on these metal clad switches. ††35-ampere metal clad switches can be furnished. Prices on application. §Repulsion induction motors.

CROUSE-HINDS CONDULETS

TYPE FLS GENERAL USE SWITCH CONDULETS

Explosion-Proof, Dust-Tight and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished with No Fuse Switch

Type FLS Condulets with single throw and double throw fuseless switches with no "off" position, rated in amperes, are general use enclosed tumbler switches for hazardous locations.

Double throw and motor reversing fuseless switches with "off" position, rated in horsepower, are for use as motor circuit switches in hazardous locations.

General use switches are quick-make and quick-break. Motor circuit switches are slow-make and quick-break. The slow-make permits proper control of the handle for jogging service.

Single Throw—Tumbler

Size Hubs	2-Pole Cat. No.	2-Pole List Each	3-Pole Cat. No.	3-Pole List Each
	30 Amperes, 250 Volts 5 Amperes, 600 Volts		30 Amperes, 250 Volts 20 Amperes, 600 Volts, A.C. 5 Amperes, 600 Volts, D.C.	
½	FLS102-11	$44.00	FLS103-11	$60.00
¾	FLS102-22	44.00	FLS103-22	60.00
1	FLS102-33	44.00	FLS103-33	60.00
1¼	FLS102-44	44.00	FLS103-44	60.00
Double Throw—Tumbler—No "Off" Position				
	30 Amperes, 250 Volts—5 Amperes, 600 Volts			
½	FLS101-11	$60.00	----------	----------
¾	FLS101-22	60.00	----------	----------
1	FLS101-33	60.00	----------	----------
1¼	FLS101-44	60.00	----------	----------
Double Throw—With "Off" Position*				
½	FLS112-11	$72.00	FLS113-11	$76.00
¾	FLS112-22	72.00	FLS113-22	76.00
1	FLS112-33	72.00	FLS113-33	76.00
Motor Reversing—With "Off" Position*				
½	FLS110-11	$76.00	FLS111-11	$80.00
¾	FLS110-22	76.00	FLS111-22	80.00
1	FLS110-33	76.00	FLS111-33	80.00

*For ratings of these switches, see table immediately below.

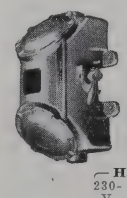
Description	H.P. Ratings at 20 Amperes A.C. 110-V.	208/220-V.	440/600-V.
3-Pole, 2 or 3-Phase	3	5	7½
2-Pole, 1-Phase	1½	3	5

TYPE FLS MOTOR CIRCUIT SWITCH CONDULETS

Explosion-Proof, Dust-Tight and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished With Switch—Not Fusible

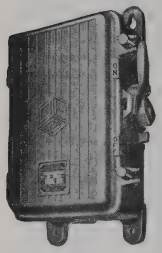


Type FLS Motor Circuit Switches are for motor disconnects to comply with code requirements for installation of a disconnect switch within sight of the motor.

The fuseless switch is the sliding action quick-make quick-break type with double break positive pressure contacts.

Amps.	Poles	H.P. Rating 230-V. A.C.	250-V. D.C.	575-V. A.C.	Size Hubs	Cat. No. FLS-	List Each
30	2	5	5	5	¾	30254-1-22	$126.00
30	3	7½	....	10	1	30354-1-33	136.50
60	2	10	10	15	1¼	60254-1-44	136.50
60	3	20	....	25	1¼	60354-1-44	147.00
100	2	10	20	15	1½	10254-1-55	360.00
100	3	30	....	40	1½	10354-1-55	370.00
200	2	25	30	50	2	20254-1-66	375.00
200	3	50	....	50	2½	20354-1-77	385.00

CROUSE-HINDS CONDULETS
TYPE WMK ENCLOSED SAFETY SWITCH CONDULETS
Watertight
NEMA Types III, IV, and V



Type WMK Condulets are furnished with switches and are especially suited to locations where a strong, durable case and switch mechanism are required. May be used indoors or outdoors, and in all places except hazardous locations.

An interlock is provided which prevents the opening of the enclosure except when the switch is in the "off" position. These Condulets are furnished with one drilled and tapped conduit opening at the top and one at the bottom equipped with threaded-in bushings. Removal of the bushing permits the use of the next larger size conduit. Other arrangements or sizes available. Information on request.

230-Volts A.C., 250-Volts D.C.

H.P. Rating 230-V. A.C.	250-V. D.C.	Amps.	Hub Size	Cat. No.	List, Each
			2-Pole—No Fuse		
3	5	30	¾	WMK30254-1-22	$ 75.50
7½	10	60	1¼	WMK60254-1-44	80.20
15	15	100	1½	WMK10254-1-55	207.00
25	30	200	2	WMK20254-1-66	287.00
			3-Pole—No Fuse		
5	....	30	1	WMK30354-1-33	$ 83.00
10	....	60	1¼	WMK60354-1-44	88.70
20	....	100	1½	WMK10354-1-55	221.00
40	....	200	2½	WMK20354-1-77	301.00
			2-Pole—Fusible*		
2	5	30	¾	WMK302-1-22	$ 74.50
5	10	60	1¼	WMK602-1-44	78.20
10	15	100	1½	WMK1002-1-55	205.00
15	30	200	2	WMK2002-1-66	301.00
			3-Wire, Solid Neutral (2 Blades, 2 Fuses)*		
3	....	30	1	WMK307-1-33	$ 82.00
7½	....	60	1¼	WMK607-1-44	88.70
15	....	100	1½	WMK1007-1-55	220.00
30	....	200	2½	WMK2007-1-77	317.00
			3-Wire Switched Neutral (3 Blades, 2 Fuses)*		
3	....	30	1	WMK308-1-33	$ 83.00
7½	....	60	1¼	WMK608-1-44	91.50
15	....	100	1½	WMK1008-1-55	225.00
30	....	200	2½	WMK2008-1-77	323.00
			3-Pole—Fusible*		
3	....	30	1	WMK303-1-33	$ 83.00
7½	....	60	1¼	WMK603-1-44	91.50
15	....	100	1½	WMK1003-1-55	225.00
30	....	200	2½	WMK2003-1-77	323.00

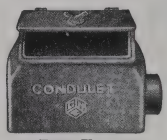
575-Volts, A.C.—600-Volts, D.C.

H.P. Rating 575-V. A.C.†	600-V. D.C.	Amps.	Hub Size	Cat. No.	List, Each
			2-Pole—No Fuse		
7½	7½	30	¾	WMK30254-1-22	$ 75.50
7½	15	60	1¼	WMK60254-1-44	80.20
25	25	100	1½	WMK10254-1-55	207.00
50	50	200	2	WMK20254-1-66	287.00
			3-Pole—No Fuse		
10	....	30	1	WMK30354-1-33	$ 83.00
25	....	60	1¼	WMK60354-1-44	88.70
40	....	100	1½	WMK10354-1-55	221.00
50	....	200	2½	WMK20354-1-77	301.00
			2-Pole—Fusible*		
5	7½	30	¾	WMK3025-1-22	$ 92.30
10	15	60	1¼	WMK6025-1-44	99.00
15	25	100	1½	WMK10025-1-55	220.00
30	50	200	2	WMK20025-1-66	317.00
			3-Pole—Fusible*		
7½	....	30	1	WMK3035-1-33	$101.00
20	....	60	1¼	WMK6035-1-44	109.50
30	....	100	1½	WMK10035-1-55	237.00
50	....	200	2½	WMK20035-1-77	331.00

†575-volt A.C. horsepower rating also applies for 440-480-volt A.C. service. *Cartridge fuses are not included in the catalog number or list price.

CROUSE-HINDS CONDULETS
Y SERIES CONDULETS
For Cutouts
NEMA Type I

Take main line fuse cutouts. Furnished with sheet steel door and cutout fastening plate.



Type Y

Type YC

Type Y
30 Amperes, 250 Volts

Size	2-Wire Cat. No.	2-Wire List, Each	3-Wire Cat. No.	3-Wire List, Each
½	Y1302	$4.70	----------	--------
¾	Y2302	4.90	Y2303	$5.90

Type YC

Size	30 Amperes, 250 Volts Cat. No.	List, Each	Cat. No.	List, Each
½	YC1302	$5.00	YC1303	$6.00
¾	YC2302	5.20	YC2303	6.20
1	YC3302	5.40	YC3303	6.40
1¼	YC4302	5.60	YC4303	6.60
	60 Amperes, 250 Volts			
¾	YC2602	$7.60	YC2603	$8.40
1	YC3602	7.80	----------	--------
1¼	----------	--------	YC4603	8.80

TYPE YAC CONDULETS
Watertight
NEMA Types III, IV, and V

Take main line fuse cutouts. Cast Feraloy door.

2-Wire, 30 Amperes, 250 Volts

Size	Cat. No.	List, Each
¾	YAC2302	$8.20

TYPE YYC CONDULETS WITH HUB PLATES
For Cutouts
NEMA Type I

Take main line fuse cutouts. Furnished with cast Feraloy door, removable conduit hub plates, and cutout fastening plate.

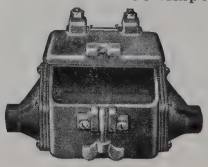
30 Amperes, 250 Volts

Size	2-Wire Cat. No.	List, Each
½	YYC1302	$ 8.60
¾	YYC2302	9.00
	3-Wire	
¾	YYC2303	10.80
1	YYC3303	11.20

TYPE YWC WITH HUB PLATES
Watertight—For Cutouts
NEMA Types III, IV, and V

Take main line fuse cutouts. Furnished with cast Feraloy door, removable conduit hub plates, gaskets and cutout fastening plate.

30 Amperes, 250 Volts



Size	2-Wire Cat. No.	List, Each
½	YWC1302	$10.60
¾	YWC2302	11.00
	3-Wire	
¾	YWC2303	13.10
1	YWC3303	13.50

CROUSE-HINDS CONDULETS

EFS SERIES PUSH BUTTON STATION CONDULETS

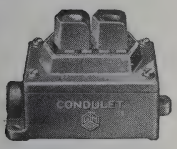
Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

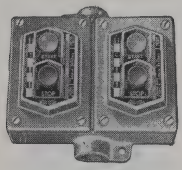
EFS series push button station Condulets with front operated push buttons are furnished with individual indicating plates, one under each button. The standard markings available are as follows:

START	RUN	TEST	FORWARD	UP	RAISE
STOP	JOG	HAND	REVERSE	DOWN	LOWER
ON	RESET	AUTO	OPEN	IN	LGT. ON
OFF	TRIP	EMER.	CLOSE	OUT	

Furnished with Motor Control Push Button Stations—Front Operated



EFS—Single-Gang



EFSC—Two-Gang†

Push Button Station Information‡

600 Volts A.C. Maximum With Push Button Station

Normal Positions	Plate Marking	Size Hub	Cat. No. EFS-	List, Each EFS-	Cat. No. EFSC-	List, Each EFSC-	Form ★
Single-Gang—D120 Series Standard Duty							
1 Circuit Open—A	Start	½ ¾	111 211	$14.30 14.40	111 211	$14.50 14.70	1
1 Circuit Closed—A	Stop	½ ¾	1102 212	14.30 14.40	1102 212	14.50 14.70	2
2 Circuits 1 Open—A 1 Closed—B	Start Stop	½ ¾	115 215	16.80 16.90	115 215	17.00 17.20	5
2 Circuits Open—A-B	Start Start	½ ¾	1103 213	16.80 16.90	1103 2103	17.00 17.20	3
2 Circuits Closed—A-B	Stop Stop	½ ¾	1105 2105	16.80 16.90	1105 2105	17.00 17.20	05
1 Circuit Universal	Must be Specified*	½ ¾	1184 2184	15.10 15.20	1184 2184	15.30 15.50	184
2 Circuits Universal	Must be Specified*	½ ¾	 2190	..... 18.40	1190 2190	18.50 18.70	190
Two-Gang—D120 Series Standard Duty							
1 Circuit Open—A	Start	½ ¾	121 221	$28.60 28.70	121 221	$28.80 29.00	1
1 Circuit Closed—A	Stop	½ ¾	122 2202	28.60 28.70	122 2202	28.80 29.00	2
2 Circuits 1 Open—A 1 Closed—B	Start Stop	½ ¾	 225	..... 33.70	125 225	33.80 34.00	5
2 Circuits Open—A-B	Start Start	½ ¾	 2203	..... 33.70	123 2203	33.80 34.00	3
2 Circuits Closed—A-B	Stop Stop	½ ¾	 2205	..... 33.70	1205 2205	33.80 34.00	05
1 Circuit Universal	Must be Specified*	½ ¾	 2284	..... 31.30	1284 2284	31.40 31.60	184
2 Circuits Universal	Must be Specified*	½ ¾	 2290	..... 36.70	1290 2290	36.80 37.00	190

★Order by catalog number. Use type and form number for identification of Condulets for hazardous locations when consulting Underwriters' Laboratories, Inc., List of Inspected Electrical Equipment. ‡Two-circuit push button stations are provided with a removable jumper for common line connection. It can be quickly removed for independent connections. *Indicating plate markings must be specified. †Combinations of push button stations can be furnished. Prices on application.

CROUSE-HINDS CONDULETS

EFS SERIES PUSH BUTTON STATION CONDULETS

Explosion-Proof and Dust-Tight

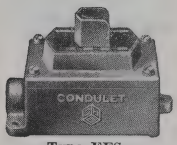
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

The indicating plate marking for each of the units must be specified. Two styles of indicating plates are available; one for a single marking and one for two markings. Either one or two markings, selected from the list below, will be supplied at no additional charge. Markings other than those shown will be supplied at **$1.00** per word list additional.

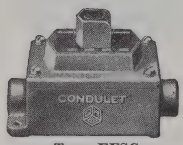
START	RUN	TEST	FORWARD	UP	RAISE
STOP	JOG	HAND	REVERSE	DOWN	LOWER
ON	RESET	AUTO	OPEN	IN	LGT. ON
OFF	TRIP	EMER.	CLOSE	OUT	

Furnished with Motor Control Push Button Stations—Front Operated

Single Button Operates Both Buttons of the Push Button Station Simultaneously



Type EFS



Type EFSC

Push Button Station Information‡

600 Volts A.C. Maximum With Push Button Station

Normal Positions	Size Hub	Cat. No.	List, Each	Form ★
Type EFS Single-Gang—D120 Series Standard Duty				
2 Circuits 1 Open—A 1 Closed—B	½ ¾ 1	EFS1155 EFS2155 EFS3155	$16.80 16.90 17.10	55
2 Circuits Open—A-B	½ ¾ 1	EFS1155B EFS2155B EFS3155B	16.80 16.90 17.10	55B
2 Circuits Closed—A-B	½ ¾ 1	EFS1155D EFS2155D EFS3155D	16.80 16.90 17.10	55D
2 Circuits Universal	¾ 1	EFS2192 EFS3192	18.40 18.60	192
Type EFSC Single-Gang—D120 Series Standard Duty				
2 Circuits 1 Open—A 1 Closed—B	½ ¾ 1	EFSC1155 EFSC2155 EFSC3155	$17.00 17.20 17.60	55
2 Circuits Open—A-B	½ ¾ 1	EFSC1155B EFSC2155B EFSC3155B	17.00 17.20 17.60	55B
2 Circuits Closed—A-B	½ ¾ 1	EFSC1155D EFSC2155D EFSC3155D	17.00 17.20 17.60	55D
2 Circuits Universal	½ ¾ 1	EFSC1192 EFSC2192 EFSC3192	18.50 18.70 19.10	192

★Order by catalog number. Use type and form number for identification of Condulets for hazardous locations when consulting Underwriters' Laboratories, Inc., List of Inspected Electrical Equipment.

‡Two-circuit push button stations are provided with a removable jumper for common line connection. It can be quickly removed for independent connections.

CROUSE-HINDS CONDULETS

EFS SERIES PUSH BUTTON STATION CONDULETS

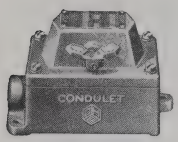
Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

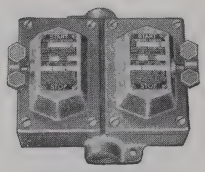
EFS series push button station Condulets with rocker type operating handle are furnished with individual indicating plates. The standard markings available are as follows:

START	RUN	TEST	FORWARD	UP	RAISE
STOP	JOG	HAND	REVERSE	DOWN	LOWER
ON	RESET	AUTO	OPEN	IN	LGT. ON
OFF	TRIP	EMER.	CLOSE	OUT	

Furnished with Motor Control Push Button Stations—Rocker Type Operating Handle



EFS—Single-Gang



EFSC—Two-Gang†

Push Button Switch Information‡

600 Volts A.C. Maximum With Push Button Station

Normal Positions	Plate Marking	Size Hub	Cat. No.	List, Each	Cat. No.	List, Each	Form ★
			Single-Gang—D120 Series Standard Duty				
			EFS-		**EFSC-**		
1 Circuit Open—A	Start	½ ¾	1174 2174	$14.30 14.40	1174 2174	$14.50 14.70	74
1 Circuit Closed—A	Stop	½ ¾	1177 2177	14.30 14.40	1177 2177	14.50 14.70	77
2 Circuits 1 Open—A 1 Closed—B	Start Stop	½ ¾	1162 2162	16.80 16.90	1162 2162	17.00 17.20	62
2 Circuits Open—A-B	Start Start	½ ¾	1165 2165	16.80 16.90	1165 2165	17.00 17.20	65
2 Circuits Closed—A-B	Stop Stop	½ ¾	1168 2168	16.80 16.90	1168 2168	17.00 17.20	68
1 Circuit Universal	Must be Specified*	½ ¾	1596 2596	15.10 15.20	1596 2596	15.30 15.50	596
2 Circuits Universal	Must be Specified*	½ ¾	 2194	..... 18.40	1194 2194	18.50 18.70	194
			Two-Gang—D120 Series Standard Duty				
			EFS-		**EFSC-**		
1 Circuit Open—A	Start	½ ¾	1274 2274	$28.60 28.70	1274 2274	$28.80 29.00	74
1 Circuit Closed—A	Stop	½ ¾	1277 2277	28.60 28.70	1277 2277	28.80 29.00	77
2 Circuits 1 Open—A 1 Closed—B	Start Stop	½ ¾	 2262	..... 33.70	1262 2262	33.80 34 00	62
2 Circuits Open—A-B	Start Start	½ ¾	 2265	..... 33.70	1265 2265	33.80 34.00	65
2 Circuits Closed—A-B	Stop Stop	½ ¾	 2268	..... 33.70	1268 2268	33.80 34.00	68
1 Circuit Universal	Must be Specified*	½ ¾	 2696	..... 31.30	1696 2696	31.40 31.60	596
2 Circuits Universal	Must be Specified*	½ ¾	 2294	..... 36.70	1294 2294	36.80 37.00	194

★Order by catalog number. Use type and form number for identification of Condulets for hazardous locations when consulting Underwriters' Laboratories, Inc., List of Inspected Electrical Equipment.

‡Two-circuit push button stations are provided with a removable jumper for common line connection. It can be quickly removed for independent connections.

*Name plate markings must be specified.

†Combinations of push button stations can be furnished. Prices on application.

CROUSE-HINDS CONDULETS

EFS SERIES PUSH BUTTON STATION CONDULETS

Explosion-Proof and Dust-Tight

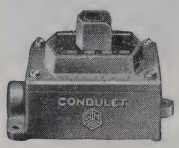
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

The indicating plate marking for each of the units must be specified. Two styles of indicating plates are available; one for a single marking and one for two markings. Either one or two markings, selected from the list below, will be supplied at no additional charge. Markings other than those shown will be supplied at **$1.00** per word list additional.

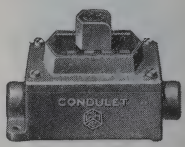
START	RUN	TEST	FORWARD	UP	RAISE
STOP	JOG	HAND	REVERSE	DOWN	LOWER
ON	RESET	AUTO	OPEN	IN	LGT. ON
OFF	TRIP	EMER.	CLOSE	OUT	

Furnished with Motor Control Push Button Stations—Front Operated

Single Button Operates Both Buttons of the Push Button Station Simultaneously



EFS—Single-Gang



EFSC—Single-Gang

Push Button Station Information‡

600 Volts A.C. Maximum With Push Button Station

Normal Positions	Size Hub	Cat. No.	List, Each	Form ★
		Type EFS Single-Gang—D120 Series Standard Duty		
2 Circuits 1 Open—A 1 Closed—B	½ ¾ 1	**EFS1155 EFS2155 EFS3155**	**$16.80 16.90 17.10**	55
2 Circuits Open—A-B	½ ¾ 1	**EFS1155B EFS2155B EFS3155B**	**16.80 16.90 17.10**	55B
2 Circuits Closed—A-B	½ ¾ 1	**EFS1155D EFS2155D EFS3155D**	**16.80 16.90 17.10**	55D
2 Circuits Universal	¾ 1	**EFS2192 EFS3192**	**18.40 18.60**	192
		Type EFSC Single-Gang—D120 Series Standard Duty		
2 Circuits 1 Open—A 1 Closed—B	½ ¾ 1	**EFSC1155 EFSC2155 EFSC3155**	**$17.00 17.20 17.60**	55
2 Circuits Open—A-B	½ ¾ 1	**EFSC1155B EFSC2155B EFSC3155B**	**17.00 17.20 17.60**	55B
2 Circuits Closed—A-B	½ ¾ 1	**EFSC1155D EFSC2155D EFSC3155D**	**17.00 17.20 17.60**	55D
2 Circuits Universal	½ ¾ 1	**EFSC1192 EFSC2192 EFSC3192**	**18.50 18.70 19.10**	192

★Order by catalog number. Use type and form number for identification of Condulets for hazardous locations when consulting Underwriters' Laboratories, Inc., List of Inspected Electrical Equipment.

‡Two-circuit push button stations are provided with a removable jumper for common line connection. It can be quickly removed for independent connections.

CROUSE-HINDS CONDULETS

EFD SERIES PUSH BUTTON STATION CONDULETS—FACTORY SEALED

Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

EFD series Condulets utilize heavy duty, 600-volt A.C., factory sealed, single button universal push button stations. Each push button station may be connected for one circuit normally closed, one circuit normally open or two circuits, one normally closed and one normally open. One unit may be used for jogging service or two may be used to make up a "Start-Stop" push button station.

The name plate marking for each push button station must be specified.

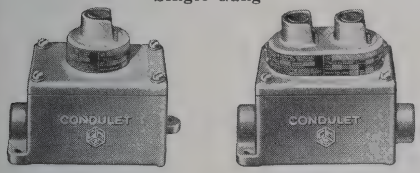
Certain standard markings are available at no extra charge. Special markings will be furnished at **$1.00** per word list additional. The standard markings available are as follows:

START	RUN	TEST	FORWARD	UP	RAISE
STOP	JOG	HAND	REVERSE	DOWN	LOWER
ON	RESET	AUTO	OPEN	IN	LGT. ON
OFF	TRIP	EMER.	CLOSE	OUT	

Push Button Station Rating—Heavy Duty, 600 Volts, A. C. Max.

Type EFD Dead End — **Type EFDC Through Feed**

Single-Gang



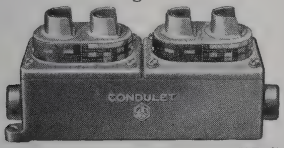
With One Push Button Station — **With Two Push Button Stations**

Cat. No. EFD-	List, Each	No. of P.B. Stations	Size Hub	Cat. No. EFDC-	List, Each
1437†	$19.30	1	½	1437†	$19.50
2437†	19.40		¾	2437†	19.70
3437†	19.60		1	3437†	20.10
1438†	29.70	2	½	1438†	29.90
2438†	29.80		¾	2438†	30.10
3438†	30.00		1	3438†	30.50

Three-Device

EFD-				EFDC-	
1453†	$44.90	3	½	1453†	$45.10
2453†	45.00		¾	2453†	45.30
3453†	45.20		1	3453†	45.70

Two-Gang Tandem



EFD-				EFDC-	
2454†	$59.50	4	¾	2454†	$59.80
3454†	59.70	4	1	3454†	60.20

†Specify indicating plate markings for each push button station. Refer to table above listing.

CROUSE-HINDS CONDULETS

EFS AND EFD SERIES SELECTOR SWITCH CONDULETS§

Explosion-Proof and Dust-Tight

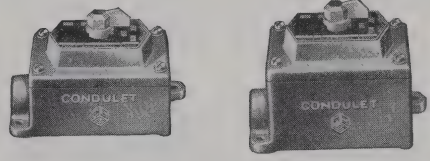
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

EFS and EFD series selector switch Condulets are provided with rotary type, maintained contact selector switches. Both two and three-position, two-circuit switches are used. These are especially useful in conjunction with motor control equipment.

The name plate marking for each selector switch must be specified. Standard markings are available at no extra charge. Special markings will be provided at **$1.00** list additional per five letter word or abbreviation. The standard markings are as follows:

Two-Position	Three-Position
RUN, JOG	RUN, OFF, JOG
AUTO, HAND	AUTO, OFF, HAND
FORW., REV.	FORW., OFF, REV.
FAST, SLOW	1, OFF, 2
OPEN, CLOSE	OPEN, OFF, CLOSE
UP, DOWN	UP, OFF, DOWN
OFF, ON	FAST, OFF, SLOW

Type EFS Standard Duty — **Type EFD Heavy Duty**



Switch Information

Cat. No. EFS-	List, Each	600-V. A.C. Max. Circuit	Size Hub	Cat. No. EFD-	List, Each
Two-Position, Two-Circuit					
11001	$14.30	1-2	½	11008	$17.50
21001	14.40		¾	21008	17.60
31001	14.60		1	31008	17.80
11002	14.30	Off-1&2	½	11009	17.50
21002	14.40		¾	21009	17.60
31002	14.60		1	31009	17.80
Three-Position, Two-Circuit					
11003	$14.30	1-Off-2	½	11010	$17.50
21003	14.40		¾	21010	17.60
31003	14.60		1	31010	17.80
11004	14.30	Off-1-2	½	----------	--------
21004	14.40		¾	----------	--------
31004	14.60		1	----------	--------
11005	14.30	Off-1&2-1	½	----------	--------
21005	14.40		¾	----------	--------
31005	14.60		1	----------	--------
11006	14.30	1-1&2-2	½	11011	17.50
21006	14.40		¾	21011	17.60
31006	14.60		1	31011	17.80
----------	--------	1&2-1-Off	½	11012	17.50
----------	--------		¾	21012	17.60
----------	--------		1	31012	17.80

§Combinations of selector switches or selector switches and pilot lights, push button stations, etc., can be furnished in multiple gang Condulets. Prices on application.

CROUSE-HINDS CONDULETS

EFS AND EFD SERIES PILOT LIGHT CONDULETS—FACTORY SEALED

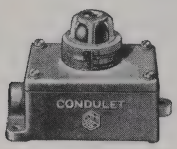
Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

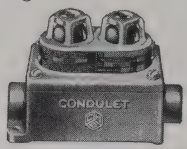
Equipped with candelabra base lamp receptacles, 125-volt, 6-watt type S-6 clear bulb lamps, for use on 110-125 volt circuits; and colored or clear glass jewels.

Dead End **Through Feed**

Single-Gang



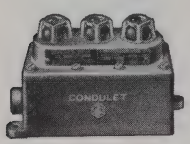
With Single Pilot Light



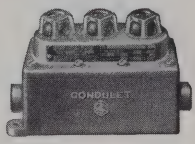
With Double Pilot Lights

Cat. No.	List, Each	Size Hub	Cat. No.	List, Each
With Single Pilot Lights				
EFS1524-*	$15.60	½	EFSC1524-*	$15.80
EFS2524-*	15.70	¾	EFSC2524-*	16.00
EFS3524-*	15.90	1	EFSC3524-*	16.40
With Double Pilot Lights				
EFS1561-*	23.00	½	EFSC1561-*	23.20
EFS2561-*	23.10	¾	EFSC2561-*	23.40
EFS3561-*	23.30	1	EFSC3561-*	23.80

Three-Device†



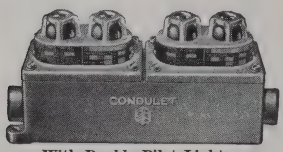
With Three Pilot Lights



With Three Pilot Lights

Cat. No.	List, Each	Size Hub	Cat. No.	List, Each
With Three Pilot Lights				
EFD1476-*	$35.90	½	EFDC1476-*	$36.10
EFD2476-*	36.00	¾	EFDC2476-*	36.30
EFD3476-*	36.20	1	EFDC3476-*	36.70

Two-Gang Tandem



With Double Pilot Lights

Cat. No.	List, Each	Size Hub	Cat. No.	List, Each
With Double Pilot Lights				
.....	.....	½	EFDC1477-*	$47.60
EFD2477-*	$47.50	¾	EFDC2477-*	47.80
EFD3477-*	47.70	1	EFDC3477-*	48.20

†Three-device and two-gang tandem Condulets are made only in the EFD deep type.

*Insert symbol for jewel colors.

Pilot light Condulets listed above are furnished with jewel guards. Condulets without jewel guards will be supplied at the same list prices. Add suffix S308 to the catalog number.

Symbols for Jewel Colors

Color	Red	Green	Amber	Opal	Clear	Blue
Symbol	J1	J3	J6	J8	J10	J11

CROUSE-HINDS CONDULETS

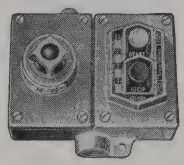
EFS SERIES COMBINATION PUSH BUTTON STATION AND PILOT LIGHT CONDULETS

Explosion-Proof and Dust-Tight

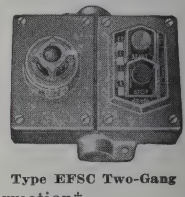
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

Furnished with motor control push button stations, both standard and heavy duty, in combination with pilot lights. Push button stations are rated 600-volts A.C. maximum.

Pilot lights are equipped with candelabra base lamp receptacles and 125-volt, 6-watt type S6 clear bulb lamps, for use on 110-125-volt circuits.



Type EFS Two-Gang



Type EFSC Two-Gang

Push Button Station Information‡
600 Volts A.C. Maximum

Normal Positions	Plate Marking	Size Hub	Cat. No.	List, Each	Form *
Type EFS Two-Gang—D120 Series Standard Duty					
			EFS-		
1 Circuit Open—A	Start	½	121-J1*	$29.90	
		¾	221-J1*	30.00	1J
		1	321-J1*	30.20	
1 Circuit Closed—A	Stop	½	122-J1*	29.90	
		¾	2202-J1*	30.00	2J
		1	322-J1*	30.20	
2 Circuits 1 Open—A 1 Closed—B	Start / Stop	½	125-J1*	32.40	
		¾	225-J1*	32.50	5J
		1	325-J1*	32.70	
2 Circuits Open—A-B	Start / Start	½	123-J1*	32.40	
		¾	2203-J1*	32.50	3J
		1	323-J1*	32.70	
2 Circuits Closed—A-B	Stop / Stop	½	1205-J1*	32.40	
		¾	2205-J1*	32.50	05J
		1	3205-J1*	32.70	
2 Circuits Universal	Must be Specified†	¾	2858-J1*	34.00	458J
		1	3858-J1*	34.20	
Type EFSC Two-Gang—D120 Series Standard Duty					
			EFSC-		
1 Circuit Open—A	Start	½	121-J1*	$30.10	
		¾	221-J1*	30.30	1J
		1	321-J1*	30.70	
1 Circuit Closed—A	Stop	½	122-J1*	30.10	
		¾	2202-J1*	30.30	2J
		1	322-J1*	30.70	
2 Circuits 1 Open—A 1 Closed—B	Start / Stop	½	125-J1*	32.60	
		¾	225-J1*	32.80	5J
		1	325-J1*	33.20	
2 Circuits Open—A-B	Start / Start	½	123-J1*	32.60	
		¾	2203-J1*	32.80	3J
		1	323-J1*	33.20	
2 Circuits Closed—A-B	Stop / Stop	½	1205-J1*	32.60	
		¾	2205-J1*	32.80	05J
		1	3205-J1*	33.20	
2 Circuits Universal	Must be Specified†	½	1858-J1*	34.10	
		¾	2858-J1*	34.30	458J
		1	3858-J1*	34.70	

*Order by catalog number. Use type and form number for identification of Condulets for hazardous locations when consulting Underwriters' Laboratories, Inc., List of Inspected Electrical Equipment. ‡Two-circuit push button stations are provided with a removable jumper for common line connection. It can be quickly removed for independent connections.

†Indicating plate marking must be specified.

*Catalog numbers listed above include red pilot light jewel (J1) in all cases. Where a different color is required substitute the proper color symbol. Example: EFSC225-J1 except with amber jewel is EFSC225-J6.

CROUSE-HINDS CONDULETS

EFD SERIES COMBINATION PUSH BUTTON STATION AND PILOT LIGHT CONDULETS FACTORY SEALED

Explosion-Proof and Dust-Tight

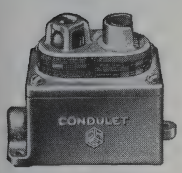
Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

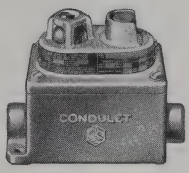
Ratings: Push Button Stations—Heavy Duty, 600 Volts A.C. Max.

Pilot Lights—6 Watts, 125 Volts, Candelabra Base

Dead End | **Through Feed**

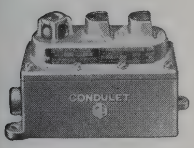
Single-Gang

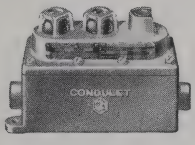




Cat. No.	List Each	Size Hub	Cat. No.	List Each
1 Push Button Station and 1 Pilot Light				
EFD1473-*†	$26.70	½	EFDC1473-*†	$26.90
EFD2473-*†	26.80	¾	EFDC2473-*†	27.10
EFD3473-*†	27.00	1	EFDC3473-*†	27.50

Three-Device

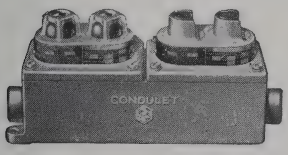




1 Push Button Station and 2 Pilot Lights

EFD1474-*†	38.90	½	EFDC1474-*†	39.10
EFD2474-*†	39.00	¾	EFDC2474-*†	39.30
EFD3474-*†	39.20	1	EFDC3474-*†	39.70
2 Push Button Stations and 1 Pilot Light				
EFD1475-*†	41.90	½	EFDC1475-*†	42.10
EFD2475-*†	42.00	¾	EFDC2475-*†	42.30
EFD3475-*†	42.20	1	EFDC3475-*†	42.70

Two-Gang Tandem



2 Push Button Stations and 2 Pilot Lights

EFD2472-*†	53.50	¾	EFDC2472-*†	53.80
EFD3472-*†	53.70	1	EFDC3472-*†	54.20

Table of Jewel Symbols

Color	Symbol	Color	Symbol
Red	J1	Opal	J8
Green	J3	Clear	J10
Amber	J6	Blue	J11

*Insert color symbol for pilot light jewels. Give symbol for each jewel where more than one is supplied.

†Specify indicating plate marking for each push button station.

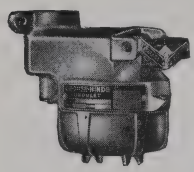
CROUSE-HINDS CONDULETS

TYPE OFC CONDULETS

For Oil Immersed or Air Break Devices

Explosion-Proof, Dust-Tight, and Watertight

Class I, Group D (NEMA Types VII and VIII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, V, IV, and III)

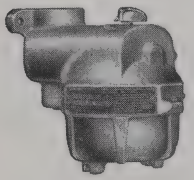


Furnished with Motor Control Push Button Station

Push button station may be air break or oil immersed.

Push Button Station Information‡ Standard Duty 600-V. A.C. Max. Normal Positions	Handle Marking	Size Hub	Condulet with Push Button Station Cat. No.	List Each
Single Operating Handle				
1 Circuit		¾	OFC2101	$27.00
Open—A	Start	1	OFC3101	27.40
1 Circuit		¾	OFC2102	27.00
Closed—A	Stop	1	OFC3102	27.40
Double Operating Handle				
2 Circuits				
1 Open—A	Start	¾	OFC2103	$29.00
1 Closed—B	Stop	1	OFC3103	29.40
2 Circuits	Start	¾	OFC2104	29.00
Open—A-B		1	OFC3104	29.40
2 Circuits	Stop	¾	OFC2105	29.00
Closed—A-B		1	OFC3105	29.40
2 Circuits	Must be	¾	OFC2133	30.50
Universal	Specified	1	OFC3133	30.90
Single Operating Handle Operating Both Buttons Together				
2 Circuits		¾	OFC2131	$29.00
Open—A-B	Start	1	OFC3131	29.40
2 Circuits		¾	OFC2132	29.00
Closed—A-B	Stop	1	OFC3132	29.40
2 Circuits	Must be	¾	OFC2139	30.50
Universal	Specified	1	OFC3139	30.90

‡Two-circuit push button stations are provided with a jumper for common line connection. It can be quickly removed for independent connections.



Furnished with Maintained Contact Selector Switch

Specify Position Markings such as Automatic-Off-Hand, Hoist-Off-Lower, Reverse-Off-Forward, etc.

Two Circuit Switch, Standard Duty 600 V. A.C. Max.

Circuit	Switch Only Diagram	Size Hubs	Condulet with Switch Cat. No.	List Each**
2 Position—2 Circuit				
1-2		¾	OFC2251	$30.00
		1	OFC3251	30.40
Off-1&2		¾	OFC2252	30.00
		1	OFC3252	30.40
3 Position—2 Circuit				
1-Off-2		¾	OFC2361	30.00
		1	OFC3361	30.40
Off-1-2		¾	OFC2363	30.00
		1	OFC3363	30.40
Off-1&2-1		¾	OFC2364	30.00
		1	OFC3364	30.40
1-1&2-2		¾	OFC2365	30.00
		1	OFC3365	30.40

‡Two-circuit push button stations provided with jumper for common line connection. Can be quickly removed for independent connections. **Includes plate marking as specified.

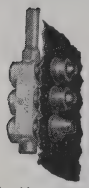
CROUSE-HINDS CONDULETS

TYPE EGP CONDULETS

Explosion-Proof, Dust-Tight For Panel Mounting

Factory-Sealed

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)



Furnished with 1-inch through-feed hubs.

Pilot Lights: Pilot light Condulets are equipped with candelabra base lamp receptacles, 125-volt, 6-watt, type S-6 clear bulb lamps, for use on 110-125-volt circuits; and colored or clear glass jewels.

Push Button Stations: Heavy duty, 600-volt A.C., factory-sealed, single button universal push button stations are used. Each push button station may be connected for one circuit normally closed, one circuit normally open, or two circuits, one normally closed and one normally open. One unit may be used for jogging service or two may be used to make up a "Start-Stop" push button station.

Switch Diagram

No. of Push Button Stations	No. of Pilot Lights	Cat. No.	List Each
	Single-Gang—Style 1		
--	1	EGP311-*	$16.00
1	--	EGP3011-†	19.00
	Two-Gang—Style 1		
--	2	EGP312-*	32.00
2	--	EGP3012-†	38.00
1	1	EGP3117-*†	35.00
	Three-Gang—Style 1		
--	3	EGP313-*	48.00
3	--	EGP3013-†	57.00
1	2	EGP3127-*†	51.00
2	1	EGP3217-*†	54.00
	Four-Gang—Style 1		
--	4	EGP3115-*	64.00
4	--	EGP3014-†	76.00
1	3	EGP3137-*†	67.00
2	2	EGP3227-*†	70.00
3	1	EGP3317-*†	73.00

TYPE EGP PUSH BUTTON SWITCH CONDULETS

The type EGP Condulets listed below are equipped with standard maintained contact push button switches.

Style	125 Volts	250 Volts	H.P.	Plate Marking	Condulet with Switch Cat. No. EGP-	List Each
1-Pole	20T-A.	10-A.	--	On-Off	3141	$32.10
2-Pole	20T-A.	20-A.	2	On-Off	3142	32.30
3-Way	15T-A.	10-A.	--	----------	3143	32.90
4-Way	5T-A.	2-A.	--	----------	3144	38.70

*To catalog number add suffix -J1 for red; -J3 for green; -J6 for amber; -J8 for opal; -J10 for clear; and -J11 for blue.

†Specify indicating plate marking for each push button station.

CROUSE-HINDS CONDULETS

TYPE EGP COMBINATION PUSH BUTTON SWITCH AND PILOT LIGHT CONDULETS

Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Types VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

Style 4

Style 4

Style	Amperes 125-V.	Amperes 250-V.	H.P.	Plate Marking	Cat. No. EGP-	List Each
	With One Pilot Light					
1-Pole	20T	10	--	On-Off	3811-*	$49.40
2-Pole	20T	20	2	On-Off	3812-*	49.60
3-Way	15T	10	--	----------	3813-*	50.20
4-Way	5T	2	--	----------	3814-*	56.00
DP, DT (No Off)	10	5	--	†Must be Specified	3815-*	63.00
	With Two Pilot Lights					
1-Pole	20T	10	--	On-Off	3821-*	65.40
2-Pole	20T	20	2	On-Off	3822-*	65.60
3-Way	15T	10	--	----------	3823-*	66.20
4-Way	15T	2	--	----------	3824-*	72.00
DP, DT (No Off)	10	5	--	†Must be Specified	3825-*	79.00

SELECTOR SWITCH CONDULETS

Provided with rotary type, maintained contact selector switches. Both two and three-position, two-circuit switches are used. These are especially useful in conjunction with motor control equipment.

The indicating plate marking for each selector switch must be specified. Standard markings are available at no extra charge. Special markings will be provided at $1.00 per word list additional. The standard markings are as follows:

Style 3

Two-Position	Three-Position
RUN, JOG	RUN, OFF, JOG
AUTO, HAND	AUTO, OFF, HAND
FORWARD, REV.	FORWARD, OFF, REV.
FAST, SLOW	1, OFF, 2
OPEN, CLOSE	OPEN, OFF, CLOSE
UP, DOWN	UP, OFF, DOWN
OFF, ON	FAST, OFF, SLOW
RAISE, LOWER	
IN, OUT	

1-inch through feed hubs.

Switch Information

Standard Duty—600 Volts A.C. Maximum

Plate Marking	Circuit	Cat. No.	List Each
	2 Position—2 Circuit		
	1-2	EGP3151	$34.00
	Off-1&2	EGP3152	34.00
Specify indicating plate markings. Refer to listing of standard markings above.	**3 Position—2 Circuit**		
	1-Off-2	EGP3153	34.00
	Off-1-2	EGP3154	34.00
	Off-1&2-1	EGP3155	34.00
	1-1&2-2	EGP3156	34.00

*To catalog number add suffix -J1 for red; -J3 for green; -J6 for amber; -J8 for opal; -J10 for clear; and -J11 for blue.

†Specify indicating plate marking for each push button station.

CROUSE-HINDS CONDULETS

FS SERIES PUSH BUTTON STATION CONDULETS

Furnished with Motor Control Push Button Stations—Rocker Type Operating Handle

Watertight

NEMA Types III, IV, V

Type FS—Dead End

Type FSC—Through Feed

Push Button Switch Information*
600 Volts A.C. Maximum

Normal Positions	Plate Marking	Size Hub	Cat. No.	List Each
Type FS-D120 Series Standard Duty				
1 Circuit Open-A	Start	½	FS1810F	$10.30
		¾	FS2810F	10.50
1 Circuit Closed-A	Stop	½	FS1810G	10.30
		¾	FS2810G	10.50
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FS1810	12.30
		¾	FS2810	12.50
2 Circuits Universal	Must be Specified	½	FS1810U	13.80
		¾	FS2810U	14.00
Type FS-D113 Series Heavy Duty				
1 Circuit Open-A	Start	½	FS1813F	15.80
		¾	FS2813F	16.00
1 Circuit Closed-A	Stop	½	FS1813G	15.80
		¾	FS2813G	16.00
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FS1813	17.80
		¾	FS2813	18.00
2 Circuits Universal	Must be Specified	½	FS1813U	19.30
		¾	FS2813U	19.50
Type FSC-D120 Series Standard Duty				
1 Circuit Open-A	Start	½	FSC1810F	10.50
		¾	FSC2810F	10.80
1 Circuit Closed-A	Stop	½	FSC1810G	10.50
		¾	FSC2810G	10.80
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FSC1810	12.50
		¾	FSC2810	12.80
2 Circuits Universal	Must be Specified	½	FSC1810U	14.00
		¾	FSC2810U	14.30
Type FSC-D113 Series Heavy Duty				
1 Circuit Open-A	Start	½	FSC1813F	16.00
		¾	FSC2813F	16.30
1 Circuit Closed-A	Stop	½	FSC1813G	16.00
		¾	FSC2813G	16.30
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FSC1813	18.00
		¾	FSC2813	18.30
2 Circuits Universal	Must be Specified	½	FSC1813U	19.50
		¾	FSC2813U	19.80

*Two-circuit push button stations are furnished with a jumper for common line connection. It can be quickly removed for independent connections. Other push button stations can be furnished. Prices on application.

Other hub arrangements or hub sizes can be furnished by using Condulet bodies of the FS series, with special tapping for larger cover screws. Prices on application.

Overall Dimensions, exclusive of hubs: Length, 4 3/32 inches; width, 2¾ inches; depth, 4 inches.

CROUSE-HINDS CONDULETS

FS AND FD SERIES PILOT LIGHT CONDULETS AND COMBINATION PUSH BUTTON STATION AND PILOT LIGHT CONDULETS

Weather Resistant (Raintight)

NEMA Types III and V

With Cast Feraloy Covers

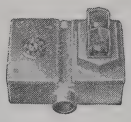
Single Pilot Light

Single Pilot Light Condulets

Furnished with jewel cover, candelabra type lamp receptacle, 120-v., 6-w., S-6 clear lamp, and 50-60 cycle transformer for circuit voltage above 110.

Size Hub	Circuit Voltage	Type FS Cat. No.	Type FS List Each	Type FSC Cat. No.	Type FSC List Each
½	110	FS180(*)	$6.50	FSC180(*)	$6.70
¾	110	FS280(*)	6.70	FSC280(*)	7.00

Size Hub	Circuit Voltage	Type FD Cat. No.	Type FD List Each	Type FDC Cat. No.	Type FDC List Each
½	220	FD181(*)	12.70	FDC181(*)	12.90
¾	220	FD281(*)	12.90	FDC281(*)	13.30
½	440	FD182(*)	12.70	FDC182(*)	12.90
¾	440	FD282(*)	12.90	FDC282(*)	13.30
½	550	FD183(*)	12.70	FDC183(*)	12.90
¾	550	FD283(*)	12.90	FDC283(*)	13.30



Two-Gang Combination

Two-Gang Combination Push Button Station and Pilot Light Condulets

Furnished with D120 standard duty, 600-v. A.C. maximum, start-stop push button station with front operated push button cover; pilot light receptacle with jewel cover, candelabra type lamp receptacle, 120-v., 6-w., S-6 clear lamp, and 50-60 cycle transformer for circuit voltage above 110.

Size Hub	Circuit Voltage	Type FS Cat. No.	Type FS List Each	Type FSC Cat. No.	Type FSC List Each
½	110	FS1635(*)	$19.80	FSC1635(*)	$20.90
¾	110	FS2635(*)	19.90	FSC2635(*)	21.10

Size Hub	Circuit Voltage	Type FD Cat. No.	Type FD List Each	Type FDC Cat. No.	Type FDC List Each
½	220	FD1637(*)	26.20	FDC1637(*)	27.30
¾	220	FD2637(*)	26.30	FDC2637(*)	27.50
½	440	FD1638(*)	26.20	FDC1638(*)	27.30
¾	440	FD2638(*)	26.30	FDC2638(*)	27.50
½	550	FD1639(*)	26.20	FDC1639(*)	27.30
¾	550	FD2639(*)	26.30	FDC2639(*)	27.50

*To catalog number add suffix for jewel color; -J1 for Red, -J3 for Green, -J6 for Amber, -J8 for Opal, -J10 for Clear, -J11 for Blue.

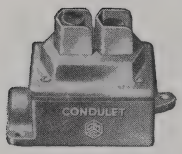
CROUSE-HINDS CONDULETS

FS SERIES PUSH BUTTON STATION CONDULETS

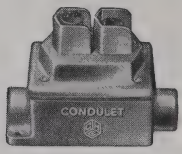
Furnished with Motor Control Push Button Stations—Front Operated

Weather Resistant (Raintight)

NEMA Types III and V



Type FS—Dead End



Type FSC Through Feed

Push Button Switch Information*
600 Volts A.C. Maximum

Normal Positions	Plate Marking	Size Hub	Cat. No.	List Each
Type FS-D120 Series Standard Duty				
1 Circuit Open-A	Start	½	FS1910F	$10.30
		¾	FS2910F	10.50
1 Circuit Closed-A	Stop	½	FS1910G	10.30
		¾	FS2910G	10.50
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FS1910	12.30
		¾	FS2910	12.50
2 Circuits Universal	Must be Specified	½	FS1910U	13.80
		¾	FS2910U	14.00
Type FS-D113 Series Heavy Duty				
1 Circuit Open-A	Start	½	FS1913F	15.80
		¾	FS2913F	16.00
1 Circuit Closed-A	Stop	½	FS1913G	15.80
		¾	FS2913G	16.00
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FS1913	17.80
		¾	FS2913	18.00
2 Circuits Universal	Must be Specified	½	FS1913U	19.30
		¾	FS2913U	19.50
Type FSC-D120 Series Standard Duty				
1 Circuit Open-A	Start	½	FSC1910F	10.50
		¾	FSC2910F	10.80
1 Circuit Closed-A	Stop	½	FSC1910G	10.50
		¾	FSC2910G	10.80
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FSC1910	12.50
		¾	FSC2910	12.80
2 Circuits Universal	Must be Specified	½	FSC1910U	14.00
		¾	FSC2910U	14.30
Type FSC-D113 Series Heavy Duty				
1 Circuit Open-A	Start	½	FSC1913F	16.00
		¾	FSC2913F	16.30
1 Circuit Closed-A	Stop	½	FSC1913G	16.00
		¾	FSC2913G	16.30
2 Circuits 1 Open-A 1 Closed-B	Start Stop	½	FSC1913	18.00
		¾	FSC2913	18.30
2 Circuits Universal	Must be Specified	½	FSC1913U	19.50
		¾	FSC2913U	19.80

*Two-circuit push button stations are furnished with a jumper for common line connection. It can be quickly removed for independent connections. Other push button stations can be furnished. Prices on application.

Other hub arrangements or hub sizes can be furnished by using Condulet bodies of the FS series, with special tapping for larger cover screws. Prices on application.

Overall Dimensions, exclusive of hubs: Length, 4 3/32 inches; width, 2 3/4 inches; depth, 4 inches.

CROUSE-HINDS CONDULETS

FS AND FD SERIES PILOT LIGHT CONDULETS AND COMBINATION PUSH BUTTON STATION AND PILOT LIGHT CONDULETS

Weather Resistant (Raintight)

NEMA Types III and IV

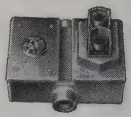
With Cast Feraloy Covers

Single Pilot Light

Single Pilot Light Condulets

Furnished with jewel cover, candelabra type lamp receptacle, 120-v., 6-w., S-6 clear lamp, and 50-60 cycle transformer for circuit voltage above 110.

Hub Size	Voltage Circuit	Type FS No.	Type FS Each	Type FSC No.	Type FSC Each
½	110	FS180(*)	$6.50	FSC180(*)	$6.70
¾	110	FS280(*)	6.70	FSC280(*)	7.00
		Type FD		**Type FDC**	
½	220	FD181(*)	12.70	FDC181(*)	12.90
¾	220	FD281(*)	12.90	FDC281(*)	13.30
½	440	FD182(*)	12.70	FDC182(*)	12.90
¾	440	FD282(*)	12.90	FDC282(*)	13.30
½	550	FD183(*)	12.70	FDC183(*)	12.90
¾	550	FD283(*)	12.90	FDC283(*)	13.30



Two-Gang Combination

Two-Gang Combination Push Button Station and Pilot Light Condulets

Furnished with D120 standard duty, 600-v. A.C. maximum, start-stop push button station with front operated push button cover; pilot light receptacle with jewel cover, candelabra type lamp receptacle, 120-v., 6-w., S-6 clear lamp, and 50-60 cycle transformer for circuit voltage above 110.

Size Hub	Circuit Voltage	Type FS No.	Type FS Each	Type FSC No.	Type FSC Each
½	110	FS1635(*)	$19.80	FSC1635(*)	$20.90
¾	110	FS2635(*)	19.90	FSC2635(*)	21.10
		Type FD		**Type FDC**	
½	220	FD1637(*)	26.20	FDC1637(*)	27.30
¾	220	FD2637(*)	26.30	FDC2637(*)	27.50
½	440	FD1638(*)	26.20	FDC1638(*)	27.30
¾	440	FD2638(*)	26.30	FDC2638(*)	27.50
½	550	FD1639(*)	26.20	FDC1639(*)	27.30
¾	550	FD2639(*)	26.30	FDC2639(*)	27.50

*To catalog number add suffix for jewel color; -J1 for Red, -J3 for Green, -J6 for Amber, -J8 for Opal, -J10 for Clear, -J11 for Blue.

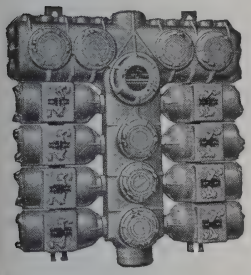
CROUSE-HINDS PANELBOARDS

TYPE EDP PANELBOARDS WITH CIRCUIT BREAKERS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished with Thermal Branch Circuit Breakers, Main Lugs, and Terminal Connection Blocks



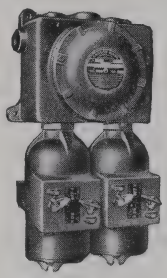
Type EDP panelboards are especially designed for use in hazardous locations. They may also be used in non-hazardous locations where corrosive vapors, non-combustible dusts, or moisture are present.

All EDP panels are wired complete. Connections between terminal blocks and circuit breakers are made at the factory. Each circuit breaker compartment is sealed from the "T" section.

All EDP panelboards are provided with 3-inch through feed main hubs. Size 1 panelboards have 12 1-inch branch hubs while Size 2 panelboards have 16 1-inch branch hubs.

*15-Ampere Branch Circuit Breakers (E Frame)

No. Breakers	Cat. No.	List Each	Cat. No.	Panel Size
Mains—3-W., 125-250-V. A.C. or D.C.			**Mains**—4-W., 120-208-V., 3-Ph.	
Branches—2-W., 125-V. A.C. or D.C. Solid Neutral			**Branches**—2-W., 120-V., 1-Ph. Solid Neutral	
Breakers—Single-Pole				
6	EDP406-15	$372.00	EDP506-15	1
8	EDP408-15	428.00	EDP508-15	1
10	EDP410-15	485.00	EDP510-15	1
12	EDP412-15	542.00	EDP512-15	1
14	EDP414-15	653.00	EDP514-15	2
16	EDP416-15	710.00	EDP516-15	2
Mains—3-W., 125-250-V. A.C. or D.C.			**Mains**—3-W., 125-250-V. A.C. or D.C.	
Branches—2-W., 125-V. A.C. or D.C.			**Branches**—3-W., 125-250-V. A.C. or D.C. Solid Neutral	
Breakers—Two-Pole				
4	EDP204-15	436.00	EDP304-15	1
6	EDP206-15	543.00	EDP306-15	1
8	EDP208-15	707.00	EDP308-15	2
Mains—2-W., 125-V. A.C. or D.C.‡			**Mains**—4-W., 120-208-V., 3-Ph.	
Branches—2-W., 125-V. A.C. or D.C.‡			**Branches**—3-W., 120-208-V., 1-Ph. Solid Neutral	
Breakers—Two-Pole				
4	EDP104-15	436.00	EDP804-15	1
6	EDP106-15	543.00	EDP806-15	1
8	EDP108-15	707.00	EDP808-15	2
Mains—3-W., 125-250-V. A.C. or D.C.‡			**Mains**—4-W., 120-208-V., 3-Ph.	
Branches—3-W., 125-250-V. A.C. or D.C.‡			**Branches**—4-W., 120-208-V., 3-Ph. Solid Neutral	
Breakers—Three-Pole				
4	EDP604-15	540.00	EDP1104-15	1
6	EDP606-15	750.00	EDP1106-15	2



TYPE ESP PANELBOARDS WITH CIRCUIT BREAKERS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight) Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished with thermal branch circuit breakers, main lugs, and terminal connection blocks.

*15-Ampere Branch Circuit Breakers (E Frame)

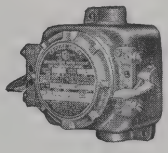
No. Breakers	Cat. No.	List Each	Cat. No.	
Mains—3-W., 125-250-V. A.C. or D.C.			**Mains**—4-W., 120-208-V., 3-Ph.	
Branches—2-W., 125-V. A.C. or D.C. Sold Neutral			**Branches**—2-W., 120-V., 1-Ph. Solid Neutral	
Breakers—Single-Pole				
4	ESP404-15	$200.00	----------	
4	----------	210.00	ESP504-15	
Mains—3-W., 125-250-V. A.C. or D.C.			**Mains**—3-W., 125-250-V. A.C. or D.C.	
Branches—2-W., 125-V. A.C. or D.C.			**Branches**—3-W., 125-250-V. A.C. or D.C. Solid Neutral	
Breakers—Two-Pole				
2	ESP202-15	210.00	ESP302-15	
Mains—3-W., 125-250-V. A.C. or D.C.			**Branches**—3-W., 125-250-V. A.C. or D.C.	
Breakers—Three-Pole				
2	ESP602-15	240.00	----------	

TYPE GUSC CIRCUIT BREAKER LOAD CENTER CONDULETS

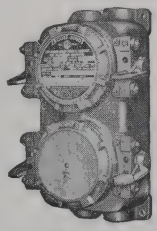
Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII) Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)*

Furnished with Type MO Multi-breakers.



Type GUSC Single-Gang



Type GUSC Two-Gang

Circuit Breaker Information: No. Breakers	Poles	Ampere Rating†	Size Hub	Conduit with Circuit Breaker Neutral Connection Block: Grounded Cat. No.	Ungrounded Cat. No.	List Each
Type GUSC Single-Gang						
				GUSC-	GUSC-	
1	1	15	¾	2251	2252	$35.00
2	1	15	¾	2281	2282	44.00
1	2	15	¾	2331	2332	38.00
Type GUSC Two-Gang						
3	1	15	¾	2361	2362	75.00
4	1	15	¾	2471	2472	84.00
2	2	15	¾	2571	2572	72.00

Type ESP panelboards have one 1½-inch main conduit opening and four 1-inch branch conduit openings. Furnished with necessary pipe plugs.

*Panelboards with all 20 or 30-ampere breakers can be furnished at the same list prices. 40 or 50-ampere breakers, or combinations of 15 through 50-ampere breakers, can be furnished. Prices on application.

†Conduletes with 20 or 30-ampere breakers can be furnished at the same list prices.

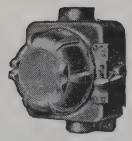
*Single-Gang GUSC Conduletes are also suitable for Class I, Group C locations.

‡These panelboards may be used on 250-volts A.C. They are labeled for 125-volts as this is the highest voltage available at Underwriters' Laboratories, Inc., for short-circuit tests of these breakers in explosion-proof enclosures.

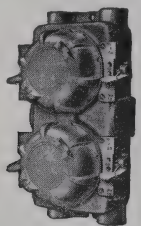
CROUSE-HINDS CONDULETS

TYPE GUSC CIRCUIT BREAKER LOAD CENTER CONDULETS—Continued

Furnished with Thermal Magnetic "Quicklag" Circuit Breakers, 125-250 Volts A.C.



Type GUSC Single-Gang



Type GUSC Two-Gang

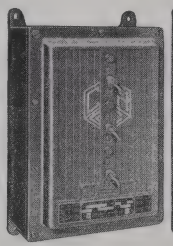
Circuit Breaker Information				Conduit With Circuit Breaker Neutral Connection Block		
				Grounded	Ungrounded	
No. Breakers	Poles	Ampere Rating†	Size Hub	Cat. No.	Cat. No.	List Each
Type GUSC Single-Gang*						
				GUSC-	GUSC-	
1	1	10	1	3110-10	3111-10	$35.00
1	1	15	1	3110-15	3111-15	35.00
2	1	10	1	3210-10	3211-10	44.00
2	1	15	1	3210-15	3211-15	44.00
1	2	10	1	3120-10	3121-10	38.00
1	2	15	1	3120-15	3121-15	38.00
Type GUSC Two-Gang						
3	1	10	1	3310-10	3311-10	75.00
3	1	15	1	3310-15	3311-15	75.00
4	1	10	1	3410-10	3411-10	84.00
4	1	15	1	3410-15	3411-15	84.00
2	2	10	1	3220-10	3221-10	72.00
2	2	15	1	3220-15	3221-15	72.00

TYPE DVSP PANELBOARDS WITH CIRCUIT BREAKERS

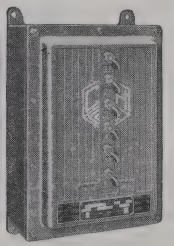
Dust-Tight and Weather Resistant (Raintight)
Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished with Thermal Branch Circuit Breakers, Pressure Type Main Lugs, Neutral Terminal Connection Block, and Conduit Openings.

Type DVSP With Two Single Pole Circuit Breakers Form A



Type DVSP With Three Double-Pole Circuit Breakers Form B



Type DVSP With Six Single-Pole Circuit Breakers Form B

*15-Ampere Branch Circuit Breakers (E Frame)

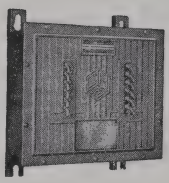
No. Breakers	Cat. No.	List Each	Cat. No.	Form
Mains—3-W., 125-250-V. A.C. or D.C.			**Mains**—4-W., 120-208-V., 3-Ph.	
Branches—2-W., 125-V. A.C. or D.C. Solid Neutral			**Branches**—2-W., 120-V., 1-Ph. Solid Neutral	
Breakers—Single-Pole				
2	DVSP402-15	$74.00	----------	A
3	DVSP403-15	144.00	DVSP503-15	B
4	DVSP404-15	157.00	DVSP504-15	B
5	DVSP405-15	170.00	DVSP505-15	B
6	DVSP406-15	183.00	DVSP506-15	B

TYPE DLP PANELBOARDS WITH CIRCUIT BREAKERS

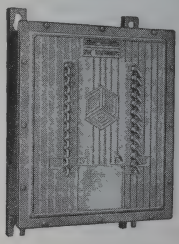
Dust-Tight and Weather Resistant (Raintight)
Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished with Thermal-Magnetic (Quicklag) Branch Circuit Breakers, Pressure Type Main Lugs, Neutral Terminal Connection Block, and Conduit Openings.

Cast Aluminum Housings. List prices include a maximum of one conduit opening for each branch circuit and one for main conduit. Tapped conduit openings with threaded-in bushings will be provided. Send sketch showing the number, size and location of openings desired.



Type DLP Panelboard Form A



Type DLP Panelboard Form B

*15-Ampere Branch Circuit Breakers

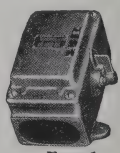
No. Breakers	Cat. No.	List Each	Cat. No.	Form
Mains—3-W.,125-250-V. A.C.			**Mains**—4-W., 120-208-V., 3-Ph.	
Branches—2-W., 125-V. A.C. Solid Neutral			**Branches**—2-W., 120-V., 1-Ph. Solid Neutral	
Breakers—Single-Pole				
6	DLP406-15	$264.00	DLP506-15	A
8	DLP408-15	280.00	DLP508-15	A
10	DLP410-15	296.00	DLP510-15	A
12	DLP412-15	312.00	DLP512-15	A
14	DLP414-15	404.00	DLP514-15	B
16	DLP416-15	420.00	DLP516-15	B
18	DLP418-15	436.00	DLP518-15	B
20	DLP420-15	452.00	DLP520-15	B
22	DLP422-15	468.00	DLP522-15	B
24	DLP424-15	484.00	DLP524-15	B

TYPE YSW CIRCUIT BREAKER LOAD CENTER CONDULETS—Without Hub Plates

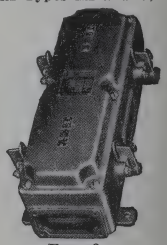
Weather Resistant (Raintight)—(NEMA Types III and V)

Furnished with Connection Block, Gaskets for Hub Plates, and Thermal Branch Circuit Breakers.

Take YYP7 removable conduit hub plates. Single-pole YSW Condulets, Form 1, available with 2 circuit breakers. Information on request.



Form 1



Form 3

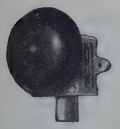
Amps.	Single-Pole No.	Each	Two-Pole No.	Each
YSW Form 1				
	1 Circuit Breaker			
15	YSW1115	$33.40	YSW1215	$49.80
20	YSW1120	33.40	YSW1220	49.80
30	YSW1130	33.40	YSW1230	49.80
40	YSW1140	35.40	YSW1240	49.80
YSW Form 3				
	4 Circuit Breakers		2 Circuit Breakers	
15	YSW4115	109.60	YSW2215	107.60
20	YSW4120	109.60	YSW2220	107.60
30	YSW4130	109.60	YSW2230	107.60
40	YSW4140	117.60	YSW2240	107.60

*Panelboards with all 20 or 30-ampere breakers can be furnished at the same list prices. 40 or 50-ampere breakers, or combinations of 15 through 50-ampere breakers, can be furnished. Prices on application. †**Single-gang** Condulets with 20, 30, or 40-ampere breakers and **two-gang** Condulets with 20 or 30-ampere breakers can be furnished at the same list prices. ***Single-gang** GUSC Condulets are also suitable for Class I, Group C locations.

CROUSE-HINDS CONDULETS

TYPE ESR BELL SIGNAL CONDULETS

Explosion-Proof and Dust-Tight
Class I, Group D; Class II, Groups E, F, and G; and Class III



Furnished with either 6, 8, or 10-inch diameter gong and with vibrating or single stroke hammer.

25 to 60-cycle A.C.

Size hub—¾ inch.

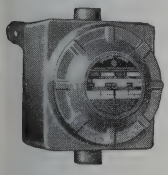
Type ESR Bell Signal Condulet for A.C.*

Nom. Volts	Voltage Range	Decibels at Six Yards	Loudness Rating ASA Units	Dia. Bell	Cat. No.	List Each
			Vibrating Hammer			
					ESR-	
12	11 to 13				2675	$84.00
24	22 to 26				2674	84.00
48	44 to 52	88.5	33600	6″	2673	84.00
115	104 to 126				2672	70.00
230	207 to 253				2671	70.00
12	11 to 13				2695	85.25
24	22 to 26				2694	85.25
48	44 to 52	92.5	47000	8″	2693	85.25
115	104 to 126				2692	71.25
230	207 to 253				2691	71.25
12	11 to 13				2615	86.00
24	22 to 26				2614	86.00
48	44 to 52	92	45000	10″	2613	86.00
115	104 to 126				2612	72.00
230	207 to 253				2611	72.00
			Single Stroke Hammer			
12	11 to 13				2665	84.00
24	22 to 26				2664	84.00
48	44 to 52	88.5	33600	6″	2663	84.00
115	104 to 126				2662	70.00
230	207 to 253				2661	70.00
12	11 to 13				2685	85.25
24	22 to 26				2684	85.25
48	44 to 52	92.5	47000	8″	2683	85.25
115	104 to 126				2682	71.25
230	207 to 253				2681	71.25
12	11 to 13				2625	86.00
24	22 to 26				2624	86.00
48	44 to 52	92	45000	10″	2623	86.00
115	104 to 126				2622	72.00
230	207 to 253				2621	72.00

TYPE ECT TRANSFORMER CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, V, and III)



Furnished with 50-133-cycle transformers. 25 and 50-volt-ampere transformers are provided with tapped primaries for 230, 460, or 575 volts and 115-volt secondaries. 75 to 750-volt-ampere transformers, inclusive, are provided with single voltage primaries for either 230, 460, or 575 volts and 115-volt secondaries. The voltage required must be specified.

Transformers for other secondary voltages can be furnished. Information on request.

Volt-Amperes (50-133 Cycles)	Size Hub	Cat. No.	List Each
25	¾	ECT211	$29.60
50	¾	ECT215	50.00

*Information on D.C. bell signals upon request.

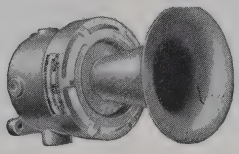
CROUSE-HINDS CONDULETS

TYPE ETH HORN AND SIREN SIGNAL CONDULETS

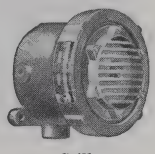
Explosion-Proof and Dust-Tight

Class I, Group D; Class II, Groups E, F, and G; and Class III

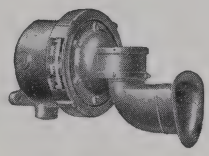
Adjustable projectors may be rotated in a horizontal plane through 180 degrees to direct the sound as desired.



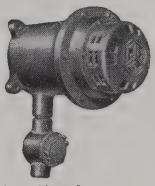
Single Projector Non-Adjustable



Grill (A.C. Unit Shown)



Single Projector Adjustable (A.C. Unit Shown)



Siren Signal

Size hub—¾ inch.

Standard Volume Horn Signal

Nom. Volts	Voltage Range	Nom. Watts	Decibels at 6 Yards	Loudness Rating ASA Units	Cat. No.	List Each
Single Projector Non-Adjustable—50 to 60 Cycle A.C.						
					ETH-	
115†	105 to 125	33	99	81000	2703	$75.00
230	207 to 253	32.5	100	88000	2702	75.00

High Power Horn Signals

Grill—50 to 60 Cycle A.C.†

					ETH-	
115	104 to 126	49	101	97000	2313	90.00
125	113 to 138	30	99	81000	2413	110.00

Single Projector Adjustable—50 to 60 Cycle A.C.†

					ETH-	
115	104 to 126	49	101	97000	2323	95.00
125	113 to 138	30	99	81000	2423	115.00

Single Projector Adjustable—D.C.

					ETH-	
125	113 to 138	30	99	81000	2423	115.00
250	225 to 275				2421	115.00

Siren Signal

A.C. or D.C. (Universal Motor)

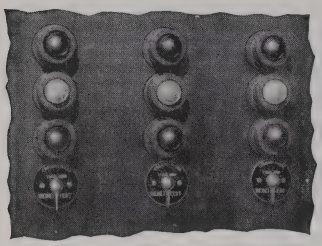
					ETH-	
115	104 to 126	195	108	180000	2603	300.00

†25-40 cycle range can be supplied at no additional charge. Add suffix S225 to the catalog number.

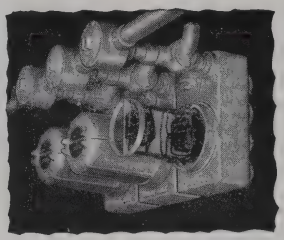
CROUSE-HINDS TYPE EKP VISULARM

Explosion-Proof and Dust-Tight

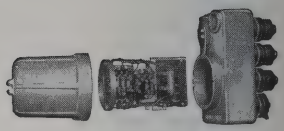
Class I, Group D (NEMA) Type VII); Class II, Groups E, F, and G; and III (NEMA Types IX, and V)



Three Horizontally Mounted VISULARMS Front View of Panel



Three Horizontally Mounted VISULARMS. Back Feed Conduit Arrangement. Rear View of Panel.



Separated View

Type EKP VISULARM is a complete compact unit used to supervise and control manufacturing processes in chemical plants, oil refineries, synthetic rubber plants and in other locations where constant control is necessary.

The VISULARM will indicate, by means of pilot lights, normal and abnormal temperature, liquid level, speed, load or any other condition which can be electrically coupled to the circuit. It is desirable to provide an audible indication of abnormal conditions and therefore the units listed are arranged to operate horns, sirens, and bells listed elsewhere in this catalog.

Auxiliary circuits can be furnished to interlock with other devices or control process equipment.

The VISULARM includes the following electrical features as standard:

1. Jack-mounted plate completely factory wired and tested.
2. High speed flasher on alarm light.
3. Independent horn circuit.
4. Reset switch. Silences horn and changes alarm light from flashing to steady until fault is corrected.
5. Test switch. Permits periodic check of every device in the VISULARM insuring proper operation under abnormal conditions.

TWO-LIGHT TWO-POSITION VISULARM
For Normal and Abnormal Indications

Signal Indications:
1. Normal—Bottom Green light on. Top Red light off.
2. Abnormal—Red light flashing. Horn on. Green light off.
3. Reset—Horn silenced. Red light on steady until conditions return to normal.

Description*	Initiating Device Contacts—Normally Open	Initiating Device Contacts—Normally Closed	List Each
Complete VISULARM†	**EKP32-1-J1-3**	**EKP32-6-J1-3**	**$195.00**
Jack-mounted Plate	**EKPU32-1**	**EKPU32-6**	**102.00**

TWO-LIGHT THREE-POSITION VISULARM
For Normal, Intermediate, and Abnormal Indications

Signal Indications:
1. Normal—Bottom White light on. Top red light off.
2. Intermediate—White and Red lights on.
3. Abnormal—Red light flashing. Horn on. White light off.
4. Reset—Horn silenced and Red light on steady until conditions return to normal.

Description*	Initiating Device Contacts—Normally Open	Initiating Device Contacts—Normally Closed	List Each
Complete VISULARM†	**EKP32-2-J1-8**	**EKP32-8-J1-8**	**$231.00**
Jack-mounted Plate	**EKPU32-2**	**EKPU32-8**	**115.50**

TWO-LIGHT FOUR-POSITION VISULARM
For Essential Motor Alarm

Signal Indications:
1. Motor Off—Bottom Green light on. Top Red light off.
2. Motor On—Red light on. Green light off.
3. Thermostat on motor indicates high temperature — Red light flashing. Horn on. Green light off. Motor continues to run.
4. Reset—Horn silenced. Red light on steady. Motor running.
5. If motor temperature continues to rise—Magnetic starter trips. Green light flashing. Horn on. Red light off. Motor stopped.
6. Reset—Horn silenced. Green light on steady. Motor stationary until restarted.
7. Motor stopped intentionally—Green light on. Red light off. Horn silent.

*Description	Initiating Device Contacts—Normally Open Contacts on Thermostat Extra Normally Closed Interlock Contact on Starter	List Each
Complete VISULARM†	**EKP32-5-J1-3**	**$277.50**
Jack-mounted Plate	**EKPU32-5**	**138.00**

THREE-LIGHT THREE-POSITION VISULARM
For Normal and High-Low Abnormal Indications

Signal Indications:
1. Normal—Center Green light on. Both red lights off.
2. Abnormal Low — Bottom Red light flashing. Horn on. Green and Top Red lights off.
3. Reset—Horn silenced. Bottom Red light on steady until conditions return to normal.
4. Abnormal High—Top Red light flashing. Horn on. Green and Bottom Red lights off.
5. Reset—Horn silenced. Top Red light on steady until conditions return to normal.

Description*	Initiating Device Contacts—Normally Open	Initiating Device Contacts—Normally Closed	List Each
Complete VISULARM†	**EKP43-3-J1-3-1**	**EKP43-7-J1-3-1**	**$231.00**
Jack-mounted Plate	**EKPU43-3**	**EKPU43-7**	**115.50**

THREE-LIGHT FIVE-POSITION VISULARM
For Normal, High-Low Intermediate, and High-Low Abnormal Indications

Signal Indications:
1. Normal—Center White light on. Both red lights off.
2. Intermediate Low — White and Bottom Red Lights on steady. Top Red light off.
3. Minimum Low — Bottom Red light flashing. Horn on. White and Top Red lights off.
4. Reset—Horn silenced. Bottom Red light on steady until conditions return to normal.
5. Intermediate High—White and Top Red lights on steady. Bottom Red light off.
6. Maximum High—Top Red light flashing. Horn on. White and Bottom Red lights off.
7. Reset—Horn silenced. Top Red light on steady until conditions return to normal.

Description*	Initiating Device Contacts—Normally Open	Initiating Device Contacts—Normally Closed	List Each
Complete VISULARM†	**EKP43-4-J1-8-1**	**EKP43-9-J1-8-1**	**$255.00**
Jack-mounted Plate	**EKPU43-4**	**EKPU43-9**	**137.00**

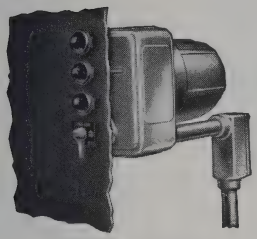
†VISULARM does not include horn. Refer to types ETH or WH horns listed elsewhere in this catalog. Pilot light jewels of colors other than those listed can be supplied. Information on request.

*Standard unit arranged for 115 volts A.C., 60 Cycles, A.C. VISULARM can be supplied for other voltages and frequencies or other circuit arrangements. Prices on application.

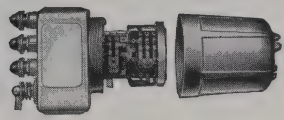
CROUSE-HINDS TYPE KP VISULARM CONDULETS

Dust-Tight and Weather Resistant (Raintight)*

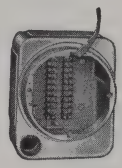
Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)



Type KP Visularm Mounted on Steel Panel



Three-Light Visularm Cover Removed



Visularm Cover and Interior Removed Showing Terminal Block

Type KP Visularm performs the same functions as type EKP explosion-proof Visularm which is designed primarily for Class I hazardous locations. The type KP is ideal for use in boiler rooms, chemical plants, grain handling and food processing plants and similar moist or corrosive locations.

Electrically, types KP and EKP are identical. The jack-mounted relay plates are also identical and interchangeable which allows stocking common spare plates for both types of Visularm.

A 1-inch back hub is provided and all sides may be drilled and tapped for additional conduit entrances. Type KP Visularms may also be bolted together with a suitable gasket between and with clearance holes to allow passage of wires between units.

Information on request.

TWO-LIGHT, TWO-POSITION VISULARM†
For Normal and Abnormal Indications

Signal Indications:
1. Normal—Bottom green light on. Top red light off.
2. Abnormal—Red light flashing. Horn on. Green light off.
3. Reset—Horn silenced. Red light on steady until conditions return to normal.

	Initiating Device Contacts (Maintained)		List,
Description*	Normally Open	Normally Closed	Each
Complete	KP32-1-J1-3‡	KP32-6-J1-3‡	$160.00
Jack-mounted Plate	EKPU32-1	EKPU32-6	102.00

TWO-LIGHT, THREE-POSITION VISULARM†
For Normal, Intermediate, and Abnormal Indications

Signal Indications:
1. Normal—Bottom white light on. Top red light off.
2. Intermediate—White and red lights on.
3. Abnormal—Red light flashing. Horn on. White light off.
4. Reset—Horn silenced. Red light on steady until conditions return to normal.

	Initiating Device Contacts (Maintained)		List,
Description*	Normally Open	Normally Closed	Each
Complete	KP32-2-J1-8‡	KP32-8-J1-8‡	$196.00
Jack-mounted Plate	EKPU32-2	EKPU32-8	115.50

THREE-LIGHT, THREE-POSITION VISULARM†
For Normal, Intermediate, and Abnormal Indications

Signal Indications:
1. Normal—Bottom green light on. Center amber and top red lights off.
2. Intermediate—Amber light flashing. Horn on. Green and red lights off.
3. Reset—Horn silenced. Amber light on steady until conditions become abnormal or return to normal.
4. Abnormal—Red light flashing. Horn on. Green and amber lights off.
5. Reset—Horn silenced. Red light on steady until conditions return to intermediate (steady amber light shows) or normal.

	Initiating Device Contacts (Maintained)		List,
Description*	Normally Open	Normally Closed	Each
Complete	KP33-11-J1-6-3‡	KP33-12-J1-6-3‡	$205.00
Jack-mounted Plate	EKPU43-11	EKPU43-12	137.00

THREE-LIGHT, THREE-POSITION VISULARM†
For Normal and High-Low Abnormal Indications

Signal Indications:
1. Normal—Center green light on. Both red lights off.
2. Abnormal Low—Bottom red light flashing. Horn on. Green and top red lights off.
3. Reset—Horn silenced. Bottom red light on steady until conditions return to normal.
4. Abnormal High—Top red light flashing. Horn on. Green and bottom red lights off.
5. Reset—Horn silenced. Top red light on steady until conditions return to normal.

	Initiating Device Contacts (Maintained)		List,
Description*	Normally Open	Normally Closed	Each
Complete	KP33-3-J1-3-1‡	KP33-7-J1-3-1‡	$181.00
Jack-mounted Plate	EKPU43-3	EKPU43-7	115.50

THREE-LIGHT, FIVE-POSITION VISULARM†
For Normal, High-Low Intermediate, and High-Low Abnormal Indications

Signal Indications:
1. Normal—Center white light on. Top and bottom red lights off.
2. Intermediate Low—White and bottom red lights on steady. Top red light off.
3. Minimum Low—Bottom red light flashing. Horn on. White and top red lights off.
4. Reset—Horn silenced. Bottom red light on steady until conditions return to normal.
5. Intermediate High—White and top red lights on steady. Bottom red light off.
6. Maximum High—Top red light flashing. Horn on. White and bottom red lights off.
7. Reset—Horn silenced. Top red light on steady until conditions return to normal.

	Initiating Device Contacts (Maintained)		List,
Description*	Normally Open	Normally Closed	Each
Complete	KP33-4-J1-8-1‡	KP33-9-J1-8-1‡	$205.00
Jack-mounted Plate	EKPU43-4	EKPU43-9	137.00

†Visularm does not include horn. Refer to listings of types ETH or WH horns elsewhere in this catalog. Pilot light jewels of colors other than those listed can be supplied. Information on request.

*Standard unit arranged for 115 Volts A.C., 60 Cycles, A.C. Visularm can be supplied for other voltages and frequencies or other circuit arrangements. Prices on application.

‡For panel ⅛" to ¼" thick. Specify type KPA for panel ¼" to ⅝" thick or type KPB for panel ⅝" to 1" thick.

*To maintain raintightness, cover threads must be kept liberally coated with a lubricant which will not flow at the operating temperatures encountered. Crouse-Hinds type STL thread lubricant is recommended.

CROUSE-HINDS CONDULETS

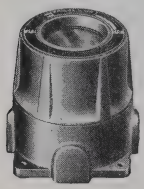
TYPE EMH INSTRUMENT CONDULETS

Explosion-Proof and Dust-Tight

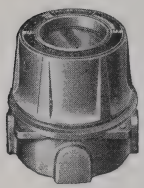
Furnished with Mounting Plate and Supports for Instruments

Four mounting lugs with fastening holes are provided at the back for surface mounting or at the front for flush mounting.

Bodies are equipped with mounting plates and posts to support the instruments near the cover window.



Surface



Flush

General Electric Types A072, D072, D073 and D071 instruments can be mounted in type EMH Condulets.

Conduit Openings	Size In.	Cat. No.	List Each
		EMH-	
One in Side	½	521-10000	$34.00
	¾	521-20000	34.00
One in Back	½	521-00001	34.00
	¾	521-00002	34.00
Two in Sides (Through Feed)	½	521-10100	34.50
	¾	521-20200	34.50
One in Side	½	511-10000	$36.00
	¾	511-20000	36.00
One in Back	½	511-00001	36.00
	¾	511-00002	36.00
Two in Sides (Through Feed)	½	511-10100	36.50
	¾	511-20200	36.50

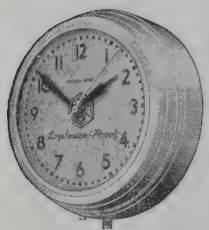
Overall Dimensions: Diameter of body, 5¾ inches; depth of body, 2¾ inches; height of cover, 3 inches.

TYPE TCH ELECTRIC CLOCK CONDULETS

Factory Sealed

Explosion-Proof and Dust-Tight

Class I, Groups C and D; Class II, Groups E, F, and G; and Class III



With Enclosing Band

Type TCH explosion-proof and dust-tight self-starting synchronous motor operated clock Condulets are for use in hazardous locations.

The dial is 13 inches in diameter. A resetting knob protrudes beyond the bezel. The motor and all electrical connections are enclosed in an explosion-proof and dust-tight housing. The gear train is enclosed in a gasketed dust-tight chamber located directly in front of the explosion-proof housing and is attached to the back of the dial assembly.

Two styles are available: one for flush mounting, and one for surface mounting. For surface mounting, a sheet metal notched band can be supplied for enclosing the space between wall and back of dial assembly.

Motor	Watts	Size Hub	Style	No.	Each
115-Volt, 60 Cy. A.C.	2.50	¾	Flush	TCH2110	$140.00
			Surface	TCH2220	130.00
Enclosing Band for Surface Mounting				TCH202	6.00

25 and 50-cycle clocks can be furnished at an advance of $10.00 in the list price.

TCH clock also available with cast aluminum weather resistant outer case. Prices on application.

CROUSE-HINDS CONDULETS

TYPE HRC THERMOSTAT CONDULETS

Explosion-Proof and Dust-Tight

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX and V)

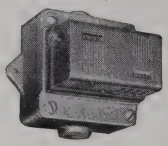
Furnished with Thermostat, Thermometer, and Mercury Tube Switch

An external lever permits any temperature setting within the calibrated range.‡ The thermostats will operate on a three-degree Fahrenheit differential. An accurate Fahrenheit thermometer is attached to the front for indicating room temperature.

Equipped with single pole switches. In units for refrigeration and air conditioning the switch makes contact on temperature rise. In units for heating the switch makes contact on temperature fall.** ½-inch union hubs.

Type	For	Range of Thermostat	Cat. No.	List Each
HRC Through Feed§	Refrigeration	25–60° F	HRC126	$60.00
	Heating	38–70° F	HRC137	60.00
		56–80° F	HRC158	60.00
	Air Conditioning	65–90° F	HRC169	60.00

Furnished with Thermostat and Thermometer



The Condulets for air conditioning and/or heating are provided with single-pole, double-throw switches. †Connected for heating, the switch makes contact on temperature fall. Connected for air conditioning, it makes contact on temperature rise. ¾-inch hubs.

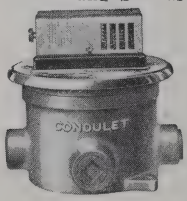
For	Range of Thermostat	Cat. No.	List Each
Air Conditioning and/or Heating	42° to 75° F	HRC42B-23	$60.00
	66° to 95° F	HRC42B-25	60.00
Heating	42° to 75° F	HRC42A-23	60.00

TYPE EHS THERMOSTAT CONDULETS

Adjustable and Interchangeable—Factory Sealed

Explosion-Proof and Dust-Tight

For Flush Mounting in Hospital Operating Rooms and Similar Hazardous Locations



Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX and V)

Thermostat Unit includes Thermostat, Thermometer, Cover, Sealing Chamber, and Adjustable Threaded Adapter. For air conditioning and/or heating. 1-inch hubs.

Chromium Plated Cover††

Range of Thermostat	Condulet With Thermostat Unit Cat. No.	Condulet With Thermostat Unit List Each	Thermostat Unit Cat. No.	Thermostat Unit List Each
42° to 75° F	EHS363	$86.00	EHS630	$77.00
66° to 95° F	EHS365	86.00	EHS650	77.00

†Positive-Off lever can be supplied on HRC42B-23 and HRC42B-25 only. Add suffix H1 to the catalog number and $1.50 to the list price. Positive-On lever can be supplied on HRC42A-23 only. Add suffix G1 to catalog number and $1.50 to list price.

§These HRC Condulets are furnished with threaded cap, GUH10, which can be used to close either hub.

‡Thermostats can be equipped with a locking arrangement to maintain uniform operation of the switch by preventing the movement of the temperature regulating lever except by authorized persons. Add suffix L to the catalog number and $3.00 to the list price.

**A manual "Hand—Off—Automatic" selector switch can be furnished. Add suffix MS to the catalog number and $5.00 to the list price.

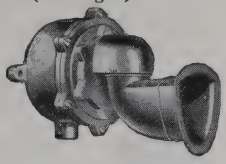
††Thermostat case is brushed silver bronze.

CROUSE-HINDS CONDULETS

TYPE WH HORN SIGNAL CONDULETS

Weather Resistant (Raintight)

Type WH With Grill



Type WH With Single Projector

Housings are provided with mounting feet and a hub for ½-inch threaded conduit. The construction of the grill style is such that the hub may be placed at the top, bottom, or either side. The horns with the projector may be mounted with the hub at either the top or the bottom.

A gasket is furnished between the housing and horn assembly to make the joints raintight. Projectors may be rotated in a horizontal plane through 180° to direct the sound as desired.

Volume	Loudness Decibels At Six Yards	Rating ASA Units	Nominal Watts	Cat. No.	List, Each
With Grill					
12 to 250 Volts—A.C.—50 to 60 Cycles†§					
Standard	92	45000	18.5	WH130A	$16.90
High Power	104	125000	49	WH131	28.00
12 to 250 Volts—D.C.§					
Standard	92	45000	19.8	WH140A	21.40
High Power	102	105000	30	WH141	32.60
With Single Projector					
12 to 250 Volts—A.C.—50 to 60 Cycles†§					
Standard	92	45000	18.5	WH130	22.50
High Power	104	125000	49	WH132	33.70
12 to 250 Volts—D.C.§					
Standard	92	45000	19.8	WH140	27.00
High Power	102	105000	30	WH142	38.20
With Double Projector					
12 to 250 Volts—A.C.—50 to 60 Cycles†§					
Standard	92	45000	18.5	WH150	30.40
High Power	104	125000	49	WH133	42.80
12 to 250 Volts—D.C.§					
Standard	92	45000	19.8	WH151	34.80
High Power	102	105000	30	WH143	47.20

TYPE FHRC THERMOSTAT CONDULETS

Furnished with Thermostat, Thermometer, and Mercury Tube Switch

Body is provided with mounting lugs and through feed hubs for ¾-inch threaded conduit. Hubs are so arranged that they are flush with the top and bottom of the body, and one hub is equipped with a pipe plug.

An external lever permits any temperature setting within the calibrated range‡. The thermostats will operate on a three-degree Fahrenheit differential.

For	Fahrenheit Temperature Range of Thermostat	Cat. No.	List, Each
		FHRC-	
Refrigeration	25 to 60°	226	$31.00
Heating	38 to 70°	237	31.00
Air	56 to 80°	258	31.00
Conditioning	65 to 90°	269	31.00

‡Thermostats can be equipped with a locking arrangement to maintain uniform operation of the switch by preventing the movement of the temperature regulating lever except by authorized persons. Add suffix L to the catalog number and $3.00 to the list price. A manual "Hand—Off—Automatic" selector switch can be furnished. Add suffix MS to the catalog number and $5.00 to the list price.

§Specify definite voltage of supply circuit when ordering.

†25 to 40-cycle range also available. If supply circuit is A.C., specify the frequency when ordering.

CROUSE-HINDS CONDULETS

Explosion-Proof and Dust-Tight

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, and V)

EFD SERIES MANUAL MOTOR STARTING SWITCH CONDULETS

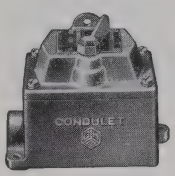
Furnished with either General Electric or Trumbull manual motor starting switches. Heaters are interchangeable and therefore may be used with either switch.

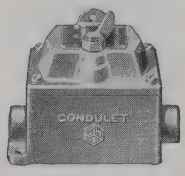
Maximum Horsepower Ratings: G.E. and Trumbull

Poles	115-230 Volts A.C.	32 Volts D.C.	115 Volts D.C.	230 Volts D.C.
1	1 H.P.	¼ H.P.	¾ H.P.	⅓ H.P.
2	1 H.P.	¼ H.P.	1 H.P.	1 H.P.

Dead End **Through Feed**

Single-Gang





Cat. No.	List, Each	Poles	Size Hub	Form ★	Cat. No.	List, Each
EFD-					EFDC-	
1181-*	$16.20	1	½	81	1181-*	$16.40
2181-*	16.30		¾		2181-*	16.60
3181-*	16.50		1		3181-*	17.00
1182-*	17.20	2	½	82	1182-*	17.40
2182-*	17.30		¾		2182-*	17.60
3182-*	17.50		1		3182-*	18.00

EFD SERIES MOTOR SENTINEL CONDULETS

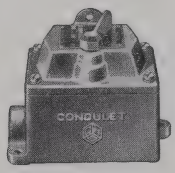
Furnished with Motor Sentinels.

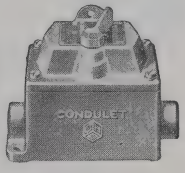
Maximum Horsepower Ratings:

Poles	115-230 Volts A.C.	32 Volts D.C.	125 Volts D.C.	250 Volts D.C.
1	1 H.P.	¼ H.P.	1 H.P.	¼ H.P.
2	1 H.P.	¼ H.P.	1 H.P.	1 H.P.

Dead End **Through Feed**

Single-Gang





Cat. No.	List, Each	Poles	Size Hub	Cat. No.	List, Each
EFD-				EFDC-	
11101-*	$16.20	1	½	11101-*	$16.40
21101-*	16.30		¾	21101-*	16.60
31101-*	16.50		1	31101-*	17.00
11102-*	17.20	2	½	11102-*	17.40
21102-*	17.30		¾	21102-*	17.60
31102-*	17.50		1	31102-*	18.00

★Order by catalog number. Use type and form number for identification of Condulets for hazardous locations when consulting Underwriters' Laboratories, Inc., List of Inspected Electrical Equipment.

*List prices include switch or Motor Sentinel with one heater. Specify full load motor current.

CROUSE-HINDS CONDULETS

FD SERIES MOTOR SENTINEL CONDULETS

Watertight

NEMA Types III, IV, and V

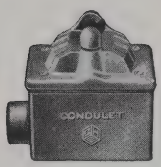
Furnished with Motor Sentinel.

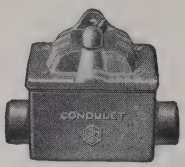
Maximum Horsepower Ratings

Poles	115-230 Volts A.C.	32 Volts D.C.	125 Volts D.C.	250 Volts D.C.
1	1 H.P.	¼ H.P.	1 H.P.	¼ H.P.
2	1 H.P.	¼ H.P.	1 H.P.	1 H.P.

Dead End† **Through Feed†**

Single-Gang





Cat. No.	List Each	Poles	Size Hub	Cat. No.	List Each
FD1211-*	$12.00	1	½	FDC1211-*	$12.20
FD2211-*	12.20		¾	FDC2211-*	12.60
FD3211-*	12.50		1	FDC3211-*	13.00
FD1212-*	13.00	2	½	FDC1212-*	13.20
FD2212-*	13.20		¾	FDC2212-*	13.60
FD3212-*	13.50		1	FDC3212-*	14.00

TYPE GUSC LINE STARTER CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, V, and III)

Furnished with across-the-line manual motor starting switches for starting D.C. or single and polyphase A.C. motors.

They provide thermal relay time limit overload protection but do not provide undervoltage or short circuit protection.

They are furnished with ¾-inch through-feed hubs for threaded conduit, and external mounting lugs with fastening holes.

Motor Starting Switch Information

Size	Poles	Phase	Horsepower Ratings A.C. 110 V.	A.C. 220 V.	D.C. 115 V.	D.C. 230 V.	Cat. No.	List Each
							GUSC-	
	1	1	1	1½	½	¾	2081-AH-*	$28.00
	2	1	1	1½	1	1½	2092-AH-*	38.00
0	3	3 & 2	1½	2	----	----	2123-AH-*	44.00
	4	2	1½	2	----	----	2124-AH-*	56.00

†Other hub arrangements or hub sizes can be furnished by using Condulet bodies of the FD series, with special tapping for larger cover screws. Prices on application.

*List prices include necessary heaters. Specify full load motor current.

CROUSE-HINDS CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, V, and III)

TYPE FLF LINE STARTER CONDULETS

Manual Across-the-Line Motor Starters

Sizes 0 and 1

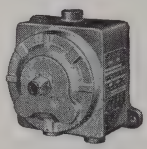
Type FLF Condulet For General Electric and Trumbull Starters

The type FLF Condulets listed have two 1-inch through-feed conduit hubs. The 1-inch size as listed is standard and will be supplied unless otherwise specified. Other hub arrangements can be furnished; prices on application.

Size	Poles	Max. H.P. 110 V.	208-220 V.	440-550 V.	Condulet With Starter Cat. No.	Condulet With Starter List Each	Condulet Without Starter Cat. No.	Condulet Without Starter List Each
	General Electric Starters—Class CR1062				FLF124-		FLF-	
	2 (1 Ph.)	1	1½	1½	G21	$57.95	124	$36.00
0	3 (3 Ph.)	1½	2	2	G33	58.30	124	36.00
	4 (2 Ph.)	1½	2	2	G42	73.70	124	36.00
					FLF125-		FLF-	
	2 (1 Ph.)	1½	3	5	G21	83.75	125	56.00
1	3 (3 Ph.)	3	5	7½	G33	86.40	125	56.00
	4 (2 Ph.)	3	5	7½	G42	99.55	125	56.00
	Trumbull Starters—Type PT				FLF124-		FLF-	
	2 (1 Ph.)	1	1½	1½	T21	57.95	124	36.00
0	3 (3 Ph.)	1½	2	2	T33	58.30	124	36.00
	4 (2 Ph.)	1½	2	2	T42	73.70	124	36.00
					FLF125-		FLF-	
	2 (1 Ph.)	1½	3	5	T21	83.75	125	56.00
1	3 (3 Ph.)	3	5	7½	T33	86.40	125	56.00
	4 (2 Ph.)	3	5	7½	T42	99.55	125	56.00

TYPE GUB LINE STARTER CONDULETS

Magnetic Across-The-Line Motor Starters



Furnished with external levers or push buttons for operating manual reset overload relays.

Starters are opened and closed by push button "start-stop" stations located at convenient points. Types EFD, EFS, and EGP series air break push button stations and type OFC oil immersed push button stations are recommended for this service.

¾-inch threaded hubs with integral bushing, two on the bottom and one on the top, are supplied. Other sizes, arrangements or union hubs can be furnished if specified. Prices on application.

Size‡	Max. H.P. 208-220V.	440-480V.	Condulet With Starter 208-220V. ** Cat. No.	Condulet With Starter 440-480V. ** Cat. No.	List Each	Condulet Without Starter Cat. No.	Condulet Without Starter List Each
	General Electric Starters—CR7006 Series—3-Phase, 60-Cycle		GUB078-	GUB078-		GUB-	
0	2	2	G6230	G6430	$102.95	078	$60.00
1	5	7½	G6231	G6431	109.50	078	60.00
	Trumbull Starters—M Series—3-Phase, 60-Cycle		GUB016-	GUB016-		GUB-	
0	2	2	T6230	T6430	102.95	016	60.00
1	5	7½	T6231	T6431	109.50	016	60.00

**Also available for 110 and 550 volts at the same prices.

‡For larger starters and Combination Starters refer to listings of Type EPC Condulets.

Ordering Information: When ordering complete type FLF or GUB Line Starter Condulets, give complete catalog number and specify H.P., voltage, frequency, number of phases, R.P.M., type, and full load ampere rating of motor. If complete motor data is not available, specify ampere rating of heater required.

Heater: Two-pole motor starters are furnished with one heater; three-pole starters and four-pole starters are furnished with two heaters.

CROUSE-HINDS CONDULETS

TYPE EPC COMBINATION LINE STARTER CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, V, and III)

General Electric Magnetic Across-The-Line Starters and Trumbull Air Break Circuit Breakers

Type EPC Combination Line Starter Condulet Air Break

Maximum safety and ease of installation and maintenance in hazardous locations is obtained by the use of EPC Combination Starters. These weathertight, corrosion-resisting Condulet enclosures are for use in any location.

The combination starter provides circuit breaker disconnect with short circuit and overload protection for the motor circuit plus undervoltage release and overload protection for the motor. The minimum installation expense is obtained by installing this complete unit control instead of using separate enclosures for the breaker and starter.

Size	Max. H.P.	Amp.	Size Hubs	Cat. No.	List Each
			Air Break†—208-220 Volts**		
			Condulet With Starter and Circuit Breaker		
0	2	15	1¼	EPC1088-TT15-G623	$205.00
1	5	30	1¼	EPC1088-TT30-G623	211.55
2	10	50	1½	EPC10167-TT50-G623	290.75
2	15	70	1½	EPC10152-TT70-G623	318.40
3	30	100	2½	EPC10153-TT100-G623	501.60
3	30	125	2½	EPC10154-TT125-G623	627.80
			Condulet Without Starter and Circuit Breaker		
0	2	15	1¼	EPC1088	130.00
1	5	30	1¼	EPC1088	130.00
2	10	50	1½	EPC10167	170.00
2	15	70	1½	EPC10152	170.00
3	30	100	2½	EPC10153	300.00
3	30	125	2½	EPC10154	300.00
			Air Break—440-480 Volts**		
			Condulet With Starter and Circuit Breaker		
0	2	15	1¼	EPC1048-TT15-G643	232.65
1	3	15	1¼	EPC1048-TT15-G643	239.20
1	7½	30	1¼	EPC1048-TT30-G643	239.20
2	10	30	1½	EPC10152-TT30-G643	318.40
2	25	50	1½	EPC10152-TT50-G643	318.40
2	25	70	1½	EPC10152-TT70-G643	336.05
3	50	100	2½	EPC10153-TT100-G643	519.25
3	50	125	2½	EPC10154-TT125-G643	659.30
			Condulet Without Starter and Circuit Breaker		
0	2	15	1¼	EPC1048	130.00
1	3	15	1¼	EPC1048	130.00
1	7½	30	1¼	EPC1048	130.00
2	10	30	1½	EPC10152	170.00
2	25	50	1½	EPC10152	170.00
2	25	70	1½	EPC10152	170.00
3	50	100	2½	EPC10153	300.00
3	50	125	2½	EPC10154	300.00

*Circuit breakers are selected for average motors.

**Also available for 110 and 550 volts. Information on request.

Push button stations are not included. Types EFD, EFS, EGP, and OFC are recommended.

Ordering Information: When ordering give complete catalog number and specify H.P., voltage frequency, number of phases, R.P.M., type and full-load ampere rating of motor.

†Similar Condulets with oil immersed starters are also available.

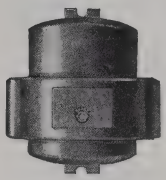
CROUSE-HINDS CONDULETS

TYPE EPC LINE STARTER CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IXA, IX, V, and III)

Magnetic Across-The-Line Motor Starters



Type EPC Line Starter Condulet Air Break

Air break starters have thermal overload relays arranged for manual reset. For this purpose, a reset push button is mounted upon the front of the body.

The starters are opened and closed by push button "start-stop" stations located at convenient points. Types EFD, EFS, and EGP series air break push button stations and type OFC oil immersed push button stations are recommended for this service.

Push button stations are not included.

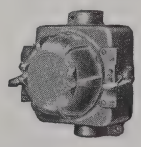
Size	Max. H.P.	Size Hubs	Condulet With Starter Cat. No.	Condulet With Starter List Each	Condulet Without Starter Cat. No.	Condulet Without Starter List Each
			General Electric Starters			
			Air Break—CR7006 Series—3-Phase, 60-Cycle			
			208-220 Volts**			
			EPC-		EPC-	
0	2	1¼	623-G623	$132.95	623	$90.00
1	5	1¼	623-G623	139.50	623	90.00
2	15	1½	659-G623	228.70	659	140.00
3	25	2½	660-G623	381.90	660	240.00
			440-480 Volts**			
0	2	1¼	623-G643	132.95	623	90.00
1	7½	1¼	623-G643	139.50	623	90.00
2	25	1½	659-G643	228.70	659	140.00
3	50	2½	660-G643	381.90	660	240.00

TYPE GUSC AUXILIARY CIRCUIT BREAKER CONDULETS

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Groups C and D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Furnished with Heinemann #0131 Electro-Magnetic Auxiliary Breaker



Auxiliary Breaker Information

Poles	Volts	Rating 1 H.P. A.C. Max.	Size	Condulet With Breaker Cat. No. GUSC-	Condulet With Breaker List Each
1	115 A.C.	¼ to 1-A.	¾	2041-11-†	$31.50
		1 to 35-A.		2041-13-†	30.00
	230 A.C.	¼ to 1-A.		2041-31-†	31.50
		1 to 35-A.		2041-33-†	30.00
	250 D.C.	¼ to 1-A.		2041-51-†	33.00
		1 to 35-A.		2041-53-†	31.50

**Also available for 110 and 550 volts. Information on request.

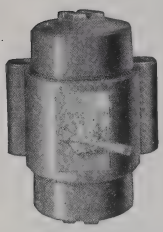
†Insert ampere rating required (any rating within limits shown in listing above). Example: Cat. No. GUSC2041-13-2 covers a Condulet with auxiliary breaker for 115 volts A.C. and with 2 ampere rating.

CROUSE-HINDS CONDULETS

TYPE EPC CIRCUIT BREAKER CONDULETS

Air Break Circuit Breakers

Explosion-Proof, Dust-Tight and Weather Resistant (Raintight)



Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; Class III (NEMA Types IX, V, and III)

These Condulets with air break circuit breakers are suitable for service entrance, feeder, or branch circuit protection, for lighting, appliance, and motor circuit conductors.

For manual closing, opening, or resetting, an external handle is provided.

Four threaded hubs are provided, two at the top and two at the bottom.

100-Ampere Frame Size with Non-Interchangeable Thermal Trip and Non-Adjustable Magnetic Trip

Amps.	Size Hubs	Condulet With Breaker Cat. No.	List, Each	Condulet Without Breaker Cat. No.	List, Each
		Trumbull			
		250-V. A.C. or 125-250-V. D.C.—Two Pole			
		EPC-			
15		450-TT15-2	$119.90		
20		450-TT20-2	119.90		
30	1¼	450-TT30-2	119.90	EPC450	$90.00
40		450-TT40-2	119.90		
50		450-TT50-2	119.90		
70*		422-TT70-2	165.40		
90	2	422-TT90-2	165.40	EPC422	$120.00
100		422-TT100-2	165.40		
		600-V. A.C. or 250-V. D.C.—Two Pole			
15		436-TT15-2	137.60		
20		436-TT20-2	137.60		
30	1¼	436-TT30-2	137.60	EPC436	$90.00
40		436-TT40-2	137.60		
50		436-TT50-2	137.60		
70*		423-TT70-2	182.90		
90	2	423-TT90-2	182.90	EPC423	$120.00
100		423-TT100-2	182.90		
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
15		450-TT15-3	129.80		
20		450-TT20-3	129.80		
30	1¼	450-TT30-3	129.80	EPC450	$90.00
40		450-TT40-3	129.80		
50		450-TT50-3	129.80		
70*		422-TT70-3	179.70		
90	2	422-TT90-3	179.70	EPC422	$120.00
100		422-TT100-3	179.70		

225-Ampere Frame Size with Interchangeable Thermal-Magnetic Trip

		250-V. A.C. or 125-250-V. D.C.—Two Pole			
125		420-TT125-2	381.60		
150		420-TT150-2	381.60		
175	3	420-TT175-2	381.60	EPC420	$230.00
200		420-TT200-2	381.60		
225		420-TT225-2	381.60		

*Can be furnished in smaller Condulet with 1¼" hubs. Prices on application.

CROUSE-HINDS CONDULETS

TYPE EPC CIRCUIT BREAKER CONDULETS

Air Break Circuit Breakers

Explosion-Proof, Dust-Tight and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

Amps.	Size Hubs	Condulet With Breaker Cat. No.	List, Each	Condulet Without Breaker Cat. No.	List, Each
		225-Ampere Frame Size with Interchangeable Thermal-Magnetic Trip			
		600-V. A.C. or 250-V. D.C.—Two Pole			
		EPC-			
125		442-TT125-2	406.10		
150		442-TT150-2	406.10		
175	3	442-TT175-2	406.10	EPC442	$230.00
200		442-TT200-2	406.10		
225		442-TT225-2	406.10		
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
125		420-TT125-3	$415.90		
150		420-TT150-3	415.90		
175	3	420-TT175-3	415.90	EPC420	$230.00
200		420-TT200-3	415.90		
225		420-TT225-3	415.90		
		600-Ampere Frame Size with Interchangeable Thermal-Magnetic Trip			
		Trumbull			
		250-V. A.C. or 125-250-V. D.C.—Two Pole			
250		446-TT250-2	879.00		
275		446-TT275-2	879.00		
300		446-TT300-2	879.00		
325		446-TT325-2	879.00		
350	4	446-TT350-2	879.00	EPC446	$500.00
400		446-TT400-2	879.00		
450		446-TT450-2	879.00		
500		446-TT500-2	879.00		
550		446-TT550-2	879.00		
600		446-TT600-2	879.00		
		600-V. A.C. or 250-V. D.C.—Two Pole			
250		460-TT250-2	902.00		
275		460-TT275-2	902.00		
300		460-TT300-2	902.00		
325		460-TT325-2	902.00		
350	4	460-TT350-2	902.00	EPC460	$500.00
400		460-TT400-2	902.00		
450		460-TT450-2	902.00		
500		460-TT500-2	902.00		
550		460-TT550-2	902.00		
600		460-TT600-2	902.00		
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
250		446-TT250-3	977.00		
275		446-TT275-3	977.00		
300		446-TT300-3	977.00		
325		446-TT325-3	977.00		
350	4	446-TT350-3	977.00	EPC446	$500.00
400		446-TT400-3	977.00		
450		446-TT450-3	977.00		
500		446-TT500-3	977.00		
550		446-TT550-3	977.00		
600		446-TT600-3	977.00		

CROUSE-HINDS CONDULETS

TYPE FLB CIRCUIT BREAKER CONDULETS

Air Break Circuit Breakers

Explosion-Proof, Dust-Tight, and Weather Resistant (Raintight)

Class I, Group D (NEMA Type VII); Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, and III)

These Condulets with air break circuit breakers are suitable for service entrance, feeder, or branch circuit protection, for lighting, appliance, and motor circuit conductors.

For manual closing, opening or resetting, an external handle is provided.

Two threaded through-feed hubs are provided. Other sizes or arrangements can be furnished. Prices on application.

50-Ampere Frame Size with Non-Interchangeable Thermal Trip

Amps.	Size Hubs	Condulet With Breaker Cat. No.	List Each	Condulet Without Breaker Cat. No.	List Each
		Trumbull			
		125-V. A.C. or D.C.—One Pole			
		FLB-			
15		41-TT15-1	$ 44.45		
20		41-TT20-1	44.45		
30	¾	41-TT30-1	44.45	FLB41	$ 35.00
40		41-TT40-1	44.45		
50		41-TT50-1	44.45		
		250-V. A.C. or 125-250V. D.C.—Two Pole			
15		42-TT15-2	56.60		
20		42-TT20-2	56.60		
30	1	42-TT30-2	56.60	FLB42	35.00
40		42-TT40-2	56.60		
50		42-TT50-2	56.60		
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
15		43-TT15-3	88.05		
20		43-TT20-3	88.05		
30	1¼	43-TT30-3	88.05	FLB43	56.00
40		43-TT40-3	88.05		
50		43-TT50-3	88.05		

100-Ampere Frame Size with Non-Interchangeable Thermal Trip and Non-Adjustable Magnetic Trip

		250-V. A.C. or 125-250-V. D.C.—Two Pole			
15		132-TT15-2	105.90		
20		132-TT20-2	105.90		
30	1¼	132-TT30-2	105.90	FLB132	76.00
40		132-TT40-2	105.90		
50		132-TT50-2	105.90		
70		132-TT70-2	121.40		
90	1½	232-TT90-2	155.40	FLB232	110.00
100		232-TT100-2	155.40		

225-Ampere Frame Size with Interchangeable Thermal-Magnetic Trip

		250-V. A.C. or 125-250-V. D.C.—Two Pole			
125		22-TT125-2	369.80		
150		22-TT150-2	369.80		
175	2½	22-TT175-2	369.80	FLB22	230.00
200		22-TT200-2	369.80		
225		22-TT225-2	369.80		
		600-V. A.C. or 250-V. D.C.—Two Pole			
125		226-TT125-2	394.30		
150		226-TT150-2	394.30		
175	2½	226-TT175-2	394.30	FLB226	230.00
200		226-TT200-2	394.30		
225		226-TT225-2	394.30		
		250-V. A.C. or 125-250V. D.C.—Three Pole			
125		23-TT125-3	398.20		
150		23-TT150-3	398.20		
175	2½	23-TT175-3	398.20	FLB23	230.00
200		23-TT200-3	398.20		
225		23-TT225-3	398.20		

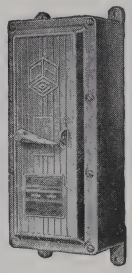
CROUSE-HINDS CONDULETS

TYPE DVS CIRCUIT BREAKER CONDULETS

Air Break Circuit Breakers

Dust-Tight and Watertight

Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, IV, and III)



These Condulets are suitable for service entrance or branch circuit protection, for lighting, heating, appliance and motor circuits. They provide maximum safety and convenience of installation in Classes II and III hazardous locations, and give complete protection where exposed to corrosive vapors, abrasive dusts, or weather.

Two threaded through-feed hubs are provided. Other sizes or arrangements can be furnished. Prices on application.

50-Ampere Frame Size with Non-Interchangeable Thermal Trip

Amps.	Size Hubs	Condulet With Breaker Cat. No.	List Each	Condulet Without Breaker Cat. No.	List Each
		Trumbull			
		125-V. A.C. or D.C.—One Pole			
		DVS-			
15		1-TT15-1	$ 36.45		
20		1-TT20-1	36.45		
30	¾	1-TT30-1	36.45	DVS1	$ 27.00
40		1-TT40-1	36.45		
50		1-TT50-1	36.45		
		250-V. A.C. or 125-250-V. D.C.—Two Pole			
15		2-TT15-2	57.60		
20		2-TT20-2	57.60		
30	1	2-TT30-2	57.60	DVS2	36.00
40		2-TT40-2	57.60		
50		2-TT50-2	57.60		
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
15		3-TT15-3	74.05		
20		3-TT20-3	74.05		
30	1¼	3-TT30-3	74.05	DVS3	42.00
40		3-TT40-3	74.05		
50		3-TT50-3	74.05		

100-Ampere Frame Size with Non-Interchangeable Thermal Trip and Non-Adjustable Magnetic Trip

		250-V. A.C. or 125-250-V. D.C.—Two Pole			
		DVS-			
15		53-TT15-2	79.90		
20		53-TT20-2	79.90		
30	1¼	53-TT30-2	79.90	DVS53	50.00
40		53-TT40-2	79.90		
50		53-TT50-2	79.90		
70		53-TT70-2	95.40		
90	1½	104-TT90-2	125.40	DVS104	80.00
100		104-TT100-2	125.40		
		600-V. A.C. or 250-V. D.C.—Two Pole			
15		536-TT15-2	97.60		
20		536-TT20-2	97.60		
30	1¼	536-TT30-2	97.60	DVS536	50.00
40		536-TT40-2	97.60		
50		536-TT50-2	97.60		
70		536-TT70-2	112.90		
90	1½	164-TT90-2	142.90	DVS164	80.00
100		164-TT100-2	142.90		

CROUSE-HINDS CONDULETS

TYPE DVS CIRCUIT BREAKER CONDULETS

Air Break Circuit Breakers

Dust-Tight and Watertight

Class II, Groups E, F, and G; and Class III (NEMA Types IX, V, IV, and III)

100-Ampere Frame Size with Non-Interchangeable Thermal Trip and Non-Adjustable Magnetic Trip

Amps.	Size Hubs	Condulet With Breaker Cat. No.	List Each	Condulet Without Breaker Cat. No.	List Each
		Trumbull			
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
		DVS-			
15		53-TT15-3	$ 89.80		
20		53-TT20-3	89.80		
30	1¼	53-TT30-3	89.80	DVS53	$ 50.00
40		53-TT40-3	89.80		
50		53-TT50-3	89.80		
70		53-TT70-3	109.70		
90	1½	104-TT90-3	139.70	DVS104	80.00
100		104-TT100-3	139.70		
		600-V. A.C.—Three Pole			
15		536-TT15-3	109.70		
20		536-TT20-3	109.70		
30	1¼	536-TT30-3	109.70	DVS536	50.00
40		536-TT40-3	109.70		
50		536-TT50-3	109.70		
70		536-TT70-3	127.35		
90	1½	164-TT90-3	157.35	DVS164	80.00
100		164-TT100-3	157.35		

225-Ampere Frame Size with Interchangeable Thermal-Magnetic Trip

250-V. A.C. or 125-250-V. D.C.—Two Pole

125		23-TT125-2	309.80		
150		23-TT150-2	309.80		
175	2½	23-TT175-2	309.80	DVS23	170.00
200		23-TT200-2	309.80		
225		23-TT225-2	309.80		

600-V. A.C. or 250-V. D.C.—Two Pole

125		236-TT125-2	334.30		
150		236-TT150-2	334.30		
175	2½	236-TT175-2	334.30	DVS236	170.00
200		236-TT200-2	334.30		
225		236-TT225-2	334.30		

250-V. A.C. or 125-250-V. D.C.—Three Pole

125		23-TT125-3	338.20		
150		23-TT150-3	338.20		
175	2½	23-TT175-3	338.20	DVS23	170.00
200		23-TT200-3	338.20		
225		23-TT225-3	338.20		

600-V. A.C.—Three Pole

125		236-TT125-3	369.70		
150		236-TT150-3	369.70		
175	2½	236-TT175-3	369.70	DVS236	170.00
200		236-TT200-3	369.70		
225		236-TT225-3	369.70		

600-Ampere Frame Size with Interchangeable Thermal-Magnetic Trip

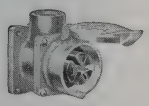
Amps.	Size Hubs	Condulet With Breaker Cat. No.	List Each	Condulet Without Breaker Cat. No.	List Each
		Trumbull			
		250-V. A.C. or 125-250-V. D.C.—Two Pole			
		DVS-			
250		63-TT250-2	$816.60		
275		63-TT275-2	816.60		
300		63-TT300-2	816.60		
325		63-TT325-2	816.60		
350	4	63-TT350-2	816.60	DVS63	$460.00
400		63-TT400-2	816.60		
450		63-TT450-2	816.60		
500		63-TT500-2	816.60		
550		63-TT550-2	816.60		
600		63-TT600-2	816.60		
		600-V. A.C. or 250-V. D.C.—Two Pole			
250		636-TT250-2	839.60		
275		636-TT275-2	839.60		
300		636-TT300-2	839.60		
325		636-TT325-2	839.60		
350	4	636-TT350-2	839.60	DVS636	460.00
400		636-TT400-2	839.60		
450		636-TT450-2	839.60		
500		636-TT500-2	839.60		
550		636-TT550-2	839.60		
600		636-TT600-2	839.60		
		250-V. A.C. or 125-250-V. D.C.—Three Pole			
250		63-TT250-3	903.40		
275		63-TT275-3	903.40		
300		63-TT300-3	903.40		
325		63-TT325-3	903.40		
350	4	63-TT350-3	903.40	DVS63	460.00
400		63-TT400-3	903.40		
450		63-TT450-3	903.40		
500		63-TT500-3	903.40		
550		63-TT550-3	903.40		
600		63-TT600-3	903.40		
		600-V. A.C.—Three Pole			
250		636-TT250-3	935.40		
275		636-TT275-3	935.40		
300		636-TT300-3	935.40		
325		636-TT325-3	935.40		
350	4	636-TT350-3	935.40	DVS636	460.00
400		636-TT400-3	935.40		
450		636-TT450-3	935.40		
500		636-TT500-3	935.40		
550		636-TT550-3	935.40		
600		636-TT600-3	935.40		

PYLE-NATIONAL QUELARC CIRCUIT BREAKING RECEPTACLES AND PLUGS

STYLE K — GROUNDED THROUGH SHELL

Use only Style K Plugs with Style K Receptacles. Volts, 250-D.C. and 600-A.C. Receptacles with Spring Door Housing. Plugs with Rubber Bushing Cable Grip. Receptacles take any plug grouped opposite the receptacle listings. Information on other types and sizes furnished on request.

Type KRCA



Hinged Spring Door Housing with Gasket

Cat. No.	Size Inches	Price Each
2-Wire, 2-Pole		
20 Ampere, 2-Wire		
KRCA-12026*	½	$12.70
KRCA-22026*	¾	12.90
KRCA-32026*	1	13.10
30 Ampere, 2-Wire		
KRCA-13026†	½	14.30
KRCA-23026†	¾	14.50
KRCA-33026†	1	14.70
3-Wire, 3-Pole		
20 Ampere, 3-Wire		
KRCA-12036*	½	13.70
KRCA-22036*	¾	13.90
KRCA-32036*	1	14.10
30 Ampere, 3-Wire		
KRCA-13036†	½	15.30
KRCA-23036†	¾	15.50
KRCA-33036†	1	15.70
60 Ampere, 3-Wire		
KRCA-36036	1	25.00
KRCA-46036	1¼	25.20
KRCA-56036	1½	25.40
100 Ampere, 3-Wire		
KRCA-510036	1½	42.30
KRCA-610036	2	42.40
4-Wire, 4-Pole		
20 Ampere, 4-Wire		
KRCA-22046*	¾	15.50
KRCA-32046*	1	15.70
30 Ampere, 4-Wire		
KRCA-23046†	¾	17.10
KRCA-33046†	1	17.30
60 Ampere, 4-Wire		
KRCA-36046	1	29.00
KRCA-46046	1¼	29.20
KRCA-56046	1½	29.40
100 Ampere, 4-Wire		
KRCA-510046	1½	46.30
KRCA-610046	2	46.40

Type KRCBB

Hinged Spring Door Housing with Gasket

Cat. No.	Size Inches	Price Each
2-Wire, 2-Pole		
20 Ampere, 2-Wire		
KRCBB-12026*	½	$12.90
KRCBB-22026*	¾	13.10
KRCBB-32026*	1	13.30
30 Ampere, 2-Wire		
KRCBB-13026†	½	14.50
KRCBB-23026†	¾	14.70
KRCBB-33026†	1	14.90
3-Wire, 3-Pole		
20 Ampere, 3-Wire		
KRCBB-12036*	½	13.90
KRCBB-22036*	¾	14.10
KRCBB-32036*	1	14.30
30 Ampere, 3-Wire		
KRCBB-13036†	½	15.50
KRCBB-23036†	¾	15.70
KRCBB-33036†	1	15.90
60 Ampere, 3-Wire		
KRCBB-36036	1	25.30
KRCBB-46036	1¼	25.50
KRCBB-56036	1½	25.70
100 Ampere, 3-Wire		
KRCBB-510036	1½	43.60
KRCBB-610036	2	43.70
4-Wire, 4-Pole		
20 Ampere, 4-Wire		
KRCBB-22046*	¾	15.70
KRCBB-32046*	1	15.90
30 Ampere, 4-Wire		
KRCBB-23046†	¾	17.30
KRCBB-33046†	1	17.50
60 Ampere, 4-Wire		
KRCBB-36046	1	29.30
KRCBB-46046	1¼	29.50
KRCBB-56046	1½	29.70
100 Ampere, 4-Wire		
KRCBB-510046	1½	47.60
KRCBB-610046	2	47.70

Type KPD

With Rubber Bushing Cable Grip

Cat. No.	Diameter Cable	Price Each
KPD-32026*	.250 to .375	$11.00
KPD-42026*	.375 to .500	11.00
KPD-52026*	.500 to .625	11.00
KPD-62026*	.625 to .750	11.00
KPD-33026†	.250 to .375	12.30
KPD-43026†	.375 to .500	12.30
KPD-53026†	.500 to .625	12.30
KPD-63026†	.625 to .750	12.30
KPD-42036*	.375 to .500	12.30
KPD-52036*	.500 to .625	12.30
KPD-62036*	.625 to .750	12.30
KPD-72036*	.750 to .875	12.30
KPD-82036*	.875 to 1.000	12.30
KPD-43036†	.375 to .500	13.60
KPD-53036†	.500 to .625	13.60
KPD-63036†	.625 to .750	13.60
KPD-73036†	.750 to .875	13.60
KPD-83036†	.875 to 1.000	13.60
KPD-66036	.625 to .750	19.00
KPD-76036	.750 to .875	19.00
KPD-86036	.875 to 1.000	19.00
KPD-96036	1.000 to 1.125	19.00
KPD-106036	1.125 to 1.250	19.00
KPD-116036	1.250 to 1.375	19.00
KPD-910036	1.000 to 1.125	30.00
KPD-1010036	1.125 to 1.250	30.00
KPD-1110036	1.250 to 1.375	30.00
KPD-1210036	1.375 to 1.500	30.00
KPD-1310036	1.500 to 1.625	30.00
KPD-1410036	1.625 to 1.750	30.00
KPD-42046*	.375 to .500	13.90
KPD-52046*	.500 to .625	13.90
KPD-62046*	.625 to .750	13.90
KPD-72046*	.750 to .875	13.90
KPD-82046*	.875 to 1.000	13.90
KPD-43046†	.375 to .500	15.20
KPD-53046†	.500 to .625	15.20
KPD-63046†	.625 to .750	15.20
KPD-73046†	.750 to .875	15.20
KPD-83046†	.875 to 1.000	15.20
KPD-66046	.625 to .750	21.00
KPD-76046	.750 to .875	21.00
KPD-86046	.875 to 1.000	21.00
KPD-96046	1.000 to 1.125	21.00
KPD-106046	1.125 to 1.250	21.00
KPD-116046	1.250 to 1.375	21.00
KPD-1010046	1.125 to 1.250	34.00
KPD-1110046	1.250 to 1.375	34.00
KPD-1210046	1.375 to 1.500	34.00
KPD-1310046	1.500 to 1.625	34.00
KPD-1410046	1.625 to 1.750	34.00

*Furnished with binding screw terminals. †Furnished with soldered type terminals.

DISCOUNTS: SCHEDULE "AD"

PYLE-NATIONAL TRIPLOC PLUGS AND RECEPTACLES COMPLETE

With Interchangeable and Reversible Contact Units

(Patents Issued and Pending)

TRIPLOC RECEPTACLES

Cadmium Plated Cast Iron

Take Type APD and APFD Triploc Plugs

Type XRF Flush For FD Deep Series Pylets

With Hinged Spring Door

For Plain Type, less door, change the first letter of the Cat. No. from "X" to "A" and deduct **$0.70** from list price.

Type XRR Surface For FS Shallow Series Pylets

STYLE "H"—With No Provision for Grounding

Cat. No.	List Price	Poles	Cat. No.	List Price
20 Ampere, 460 Volts, A.C.; 250 Volts, D.C.				
XRF-20221	$5.30	2	XRR-20221	$5.30
XRF-20321	5.50	3	XRR-20321	5.50
XRF-20421	5.70	4	XRR-20421	5.70
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
XRF-10621	7.10	6	XRR-10621	7.10
XRF-10821	8.10	8	XRR-10821	8.10

STYLE "J"—With One Pole Grounded

20 Ampere, 460 Volts, A.C.; 250 Volts, D.C.				
XRF-20321-G	5.70	3	XRR-20321-G	5.70
XRF-20421-G	5.90	4	XRR-20421-G	5.90
15A., 450V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
XRF-10621-G	7.30	6	XRR-10621-G	7.30
XRF-10821-G	8.30	8	XRR-10821-G	8.30

TRIPLOC RECEPTACLES AND PLATES

Cadmium Plated Pressed Steel

Type ARW—Flush For FD Deep Series Pylets

Plain Type ARW Flush Covers

Door

STYLE "H"—With No Provision for Grounding

Cat. No.	List Price	Poles	Steel Cover	Type	List Price
20 Amp., 460 Volts, A.C.; 250 Volts, D.C.					
ARW-20221	$3.60	2	ARW-160-S	Plain	$1.60
ARW-20321	3.80	3	ARW-100-S	Door	4.60
ARW-20421	4.00	4			
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC					
ARW-10621	5.40	6	ARW-160-S	Plain	1.60
ARW-10821	6.40	8	ARW-100-S	Door	4.60

STYLE "J"—With One Pole Grounded

20 Amp., 460 Volts, A.C.; 250 Volts, D.C.					
ARW-20321-G	4.00	3	ARW-160-S	Plain	1.60
ARW-20421-G	4.20	4	ARW-100-S	Door	4.60
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC					
ARW-10621-G	5.60	6	ARW-160-S	Plain	1.60
ARW-10821-G	6.60	8	ARW-100-S	Door	4.60

TRIPLOC CONNECTORS — FUSELESS

Cadmium Plated Pressed Steel

Type APD Plugs Fit All Type AR and XR Triploc Receptacles

Type ARD Receptacle Body

Type APD Fuseless Plug

STYLE "H"—With No Provision for Grounding

Cat. No.	List Price	Poles	Cat. No.	List Price
20 Amp., 460 Volts A.C.; 250 Volts D.C.				
Cord Size: .375" to .500"				
ARD-420221	$3.90	2	APD-420221	$3.90
ARD-420321	4.10	3	APD-420321	4.10
ARD-420421	4.30	4	APD-420421	4.30
Cord Size: .500" to .625"				
ARD-520221	3.90	2	APD-520221	3.90
ARD-520321	4.10	3	APD-520321	4.10
ARD-520421	4.30	4	APD-520421	4.30
Cord Size: .625" to .750"				
ARD-620221	4.20	2	APD-620221	4.20
ARD-620321	4.40	3	APD-620321	4.40
ARD-620421	4.60	4	APD-620421	4.60
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
Cord Size: .500" to .625"				
ARD-510621	5.70	6	APD-510621	5.70
ARD-510821	6.70	8	APD-510821	6.70
Cord Size: .625" to .750"				
ARD-610621	6.00	6	APD-610621	6.00
ARD-610821	7.00	8	APD-610821	7.00

STYLE "J"—With One Pole Grounded

20 Amp., 460 Volts A.C.; 250 Volts D.C.				
Cord Size: .375" to .500"				
ARD-420321-G	4.30	3	APD-420321-G	4.30
ARD-420421-G	4.50	4	APD-420421-G	4.50
Cord Size: .500" to .625"				
ARD-520321-G	4.30	3	APD-520321-G	4.30
ARD-520421-G	4.50	4	APD-520421-G	4.50
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
Cord Size: .500" to .625"				
ARD-510621-G	5.90	6	APD-510621-G	5.90
ARD-510821-G	6.90	8	APD-510821-G	6.90
Cord Size: .625" to .750"				
ARD-610621-G	6.20	6	APD-610621-G	6.20
ARD-610821-G	7.20	8	APD-610821-G	7.20

TRIPLOC CONNECTORS — FUSIBLE

Cadmium Plated Pressed Steel

Type APFD Plugs Fit Type AR and XR Triploc Receptacles

Take 250 Volt Cartridge Fuses or Fusetrons (N.E.C. Std.)

Type ARD Receptacle Body

Type APFD Fusible Plug

STYLE "J"—With One Pole Grounded

Cat. No.	List Price	Poles	Cat. No.	List Price
Cord Size: .375" to .500"				
ARD-420321-G	$4.30	3†	APFD-420321-G	$9.00
ARD-420421-G	4.50	4*	APFD-4203421-G	11.00
Cord Size: .500" to .625"				
ARD-520321-G	4.30	3†	APFD-520321-G	9.00
ARD-520421-G	4.50	4*	APFD-5203421-G	11.00
Cord Size: .625" to .750"				
ARD-620321-G	4.60	3†	APFD-620321-G	9.30
ARD-620421-G	4.80	4*	APFD-6203421-G	11.30

†Plug has two poles fusible.

*Plug has three poles fusible. Also available with two poles fusible.

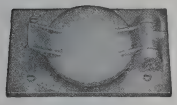
DISCOUNTS: SCHEDULE "AD"

PYLE-NATIONAL MIDGET TRIPLOC PLUGS AND RECEPTACLES

10 Amp., 250 Volts; 15 Amp., 125 Volts

MIDGET TRIPLOC RECEPTACLES

Form 1 Female Receptacles*



Type RXF
Hinged Spring Door
Housing with Gasket

Type RAW
Plain Housing

STYLE "H"—With No Provision for Grounding

Cat. No.	List Price	Poles	Cat. No.	List Price
RXF-15221	$4.30	2	RAW-15221	$3.40
RXF-15321	4.50	3	RAW-15321	3.60
RXF-15421	4.70	4	RAW-15421	3.80
STYLE "J"—With One Pole Grounded				
RXF-15321-G	4.70	3	RAW-15321-G	3.80
RXF-15421-G	4.90	4	RAW-15421-G	4.00

MIDGET TRIPLOC CONNECTORS AND MALE PLUGS

With Rubber Bushing Cord Grip

Type RAD
Connector

Type PAD
Male Plug

STYLE "H"—With No Provision for Grounding

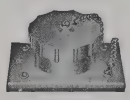
Cat. No.	List Price	Poles	Cat. No.	List Price
Cord Size: .250" to .312"				
RAD-2115221	$3.00	2	PAD-2115221	$3.00
RAD-2115321	3.20	3	PAD-2115321	3.20
RAD-2115421	3.40	4	PAD-2115421	3.40
Cord Size: .312" to .375"				
RAD-315221	3.00	2	PAD-315221	3.00
RAD-315321	3.20	3	PAD-315321	3.20
RAD-315421	3.40	4	PAD-315421	3.40
Cord Size: .375" to .437"				
RAD-3115221	3.00	2	PAD-3115221	3.00
RAD-3115321	3.20	3	PAD-3115321	3.20
RAD-3115421	3.40	4	PAD-3115421	3.40
Cord Size: .437" to .500"				
RAD-415221	3.20	2	PAD-415221	3.20
RAD-415321	3.40	3	PAD-415321	3.40
RAD-415421	3.60	4	PAD-415421	3.60
Cord Size: .500" to .625"				
RAD-515221	3.20	2	PAD-515221	3.20
RAD-515321	3.40	3	PAD-515321	3.40
RAD-515421	3.60	4	PAD-515421	3.60
STYLE "J" — With One Pole Grounded				
Cord Size: .250" to .312"				
RAD-2115321-G	3.40	3	PAD-2115321-G	3.40
RAD-2115421-G	3.60	4	PAD-2115421-G	3.60
Cord Size: .312" to .375"				
RAD-315321-G	3.40	3	PAD-315321-G	3.40
RAD-315421-G	3.60	4	PAD-315421-G	3.60
Cord Size: .375" to .437"				
RAD-3115321-G	3.40	3	PAD-3115321-G	3.40
RAD-3115421-G	3.60	4	PAD-3115421-G	3.60
Cord Size: .437" to .500"				
RAD-415321-G	3.60	3	PAD-415321-G	3.60
RAD-415421-G	3.80	4	PAD-415421-G	3.80
Cord Size: .500" to .625"				
RAD-515321-G	3.60	3	PAD-515321-G	3.60
RAD-515421-G	3.80	4	PAD-515421-G	3.80

*Receptacle can be furnished with Male Contact Units for Female Plugs and Plugs can be furnished with Female Contact Units for Male Receptacles when specified.

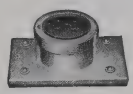
PYLE-NATIONAL WATER-TIGHT PLUGS AND RECEPTACLES

WITH TRIPLOC CONTACT UNITS

For FS and FD Series Pylets
Single and Two-Gang Tandem



Type RNER
With Threaded Cap



Type RNLR
Without Cap

STYLE "H"—With No Provision for Grounding

Cat. No.	List Price	Poles	Cat. No.	List Price
20 Ampere, 460 Volts A.C.; 250 Volts D.C.				
RNER-20221	$7.20	2	RNLR-20221	$5.60
RNER-20321	7.40	3	RNLR-20321	5.80
RNER-20421	7.60	4	RNLR-20421	6.00
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
RNER-10621	9.00	6	RNLR-10621	7.40
RNER-10821	10.00	8	RNLR-10821	8.40
STYLE "J"—With One Pole Grounded				
20 Ampere, 460 Volts A.C.; 250 Volts D.C.				
RNER-20321-G	$7.60	3	RNLR-20321-G	$6.00
RNER-20421-G	7.80	4	RNLR-20421-G	6.20
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
RNER-10621-G	9.20	6	RNLR-10621-G	7.60
RNER-10821-G	10.20	8	RNLR-10821-G	8.60

TYPE PNLD WATER-TIGHT PLUGS

With threaded nut and rubber bushing cord grip.

STYLE "H"—With No Provision for Grounding

Cat. No.	Poles	Amperes 460 V AC	125 V DC	250 V DC	Size	List Price
PNLD-420221	2	20	20	20	.375-.500	$6.60
PNLD-520221					.500-.625	6.60
PNLD-620221					.625-.750	6.90
PNLD-420321	3	20	20	20	.375-.500	6.80
PNLD-520321					.500-.625	6.80
PNLD-620321					.625-.750	7.10
PNLD-420421	4	20	20	20	.375-.500	7.00
PNLD-520421					.500-.625	7.00
PNLD-620421					.625-.750	7.30
PNLD-510621	6	15	5	1.5	.500-.625	8.40
PNLD-610621					.625-.750	8.70
PNLD-510821	8	15	5	1.5	.500-.625	9.40
PNLD-610821					.625-.750	9.70
STYLE "J"—With One Pole Grounded						
PNLD-420321-G	3	20	20	20	.375-.500	7.00
PNLD-520321-G					.500-.625	7.00
PNLD-620321-G					.625-.750	7.30
PNLD-420421-G	4	20	20	20	.375-.500	7.20
PNLD-520421-G					.500-.625	7.20
PNLD-620421-G					.625-.750	7.50
PNLD-510621-G	6	15	5	1.5	.500-.625	8.60
PNLD-610621-G					.625-.750	8.90
PNLD-510821-G	8	15	5	1.5	.500-.625	9.60
PNLD-610821-G					.625-.750	9.90

DISCOUNTS: SCHEDULE "AD"

PYLE-NATIONAL MIDGET TRIPLOC PLUGS AND RECEPTACLES

10 Amp., 250 Volts; 15 Amp., 125 Volts

TYPE RAPF MIDGET TRIPLOC RECEPTACLES

Type RAPF

For 3¼-inch and 4-inch outlet boxes, also Type BODS Pylets.

Housings are of pressed steel, cadmium plated.

Insulation, moulded bakelite.

STYLE "H"—With No Provision for Grounding

Poles	For 3¼-Inch Outlet Box — Cat. No.	List Price	For 4-Inch Outlet Box — Cat. No.	List Price
2	RAPF-315221	$3.50	RAPF-415221	$3.50
3	RAPF-315321	3.70	RAPF-415321	3.70
4	RAPF-315421	3.90	RAPF-415421	3.90
	STYLE "J"—With One Pole Grounded			
3	RAPF-315321-G	3.90	RAPF-415321-G	3.90
4	RAPF-315421-G	4.10	RAPF-415421-G	4.10

TYPE PAD TRIPLOC MALE PLUGS

With Rubber Bushing Cord Grip

Pressed steel construction; automatic lock, manual release.

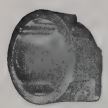
Connector Receptacles for Midget Triploc Plugs are listed on a preceding page.

Type PAD

STYLE "H"—With No Provision for Grounding

Cat. No.	For Circuits	Cord Diameter	List Price
PAD-2115221	2-Wire, 2-Pole	.250 to .312	$3.00
PAD-315221		.312 to .375	3.00
PAD-3115221		.375 to .437	3.00
PAD-415221		.437 to .500	3.20
PAD-515221		.500 to .625	3.20
PAD-2115321	3-Wire, 3-Pole	.250 to .312	3.20
PAD-315321		.312 to .375	3.20
PAD-3115321		.375 to .437	3.20
PAD-415321		.437 to .500	3.40
PAD-515321		.500 to .625	3.40
PAD-2115421	4-Wire, 4-Pole	.250 to .312	3.40
PAD-315421		.312 to .375	3.40
PAD-3115421		.375 to .437	3.40
PAD-415421		.437 to .500	3.60
PAD-515421		.500 to .625	3.60
STYLE "J"—With One Pole Grounded			
PAD-2115321-G	2-Wire, 3-Pole	.250 to .312	3.40
PAD-315321-G		.312 to .375	3.40
PAD-3115321-G		.375 to .437	3.40
PAD-415321-G		.437 to .500	3.60
PAD-515321-G		.500 to .625	3.60
PAD-2115421-G	3-Wire, 4 Pole	.250 to .312	3.60
PAD-315421-G		.312 to .375	3.60
PAD-3115421-G		.375 to .437	3.60
PAD-415421-G		.437 to .500	3.80
PAD-515421-G		.500 to .625	3.80

TYPE BODS ROUND PYLETS



Type BODSF-1

For 4-inch outlet box round base wiring devices and Types ARP and XRP Triploc plug receptacles. With blank hubs. Can be furnished tapped ½, ¾, or 1-inch conduit at an advance in list price.

Cat. No.	Mounting Lugs	O.D. at Top	Outside Height	Inside Depth	List Price
BODS-1	None	4⅛	1⅞	1¾	$1.55
BODSF-1	Two	4⅛	1⅞	1¾	1.75

PYLE-NATIONAL TRIPLOC PLUGS AND RECEPTACLES

For 3¼-Inch and 4-Inch Outlet Boxes, Also Type BODS Pylets

TYPES XRP AND ARP TRIPLOC RECEPTACLES

Take Type APD Triploc Plugs

(Listed on another page)

Type XRP—Surface Hinged Spring Door Cast Iron

Type ARP—Surface Plain Housing Pressed Steel

STYLE "H"—With No Provision for Grounding

Cat. No.	List Price	Poles	Cat. No.	List Price
20 Ampere, 460 Volts AC; 250 Volts DC				
For 3¼-Inch Outlet Box				
XRP-320221	$5.60	2	ARP-320221	$4.90
XRP-320321	5.80	3	ARP-320321	5.10
XRP-320421	6.00	4	ARP-320421	5.30
For 4-Inch Outlet Box				
XRP-420221	5.60	2	ARP-420221	4.90
XRP-420321	5.80	3	ARP-420321	5.10
XRP-420421	6.00	4	ARP-420421	5.30
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
For 3¼-Inch Outlet Box				
XRP-310621	7.40	6	ARP-310621	6.70
XRP-310821	8.40	8	ARP-310821	7.70
For 4-Inch Outlet Box				
XRP-410621	7.40	6	ARP-410621	6.70
XRP-410821	8.40	8	ARP-410821	7.70
STYLE "J"—With One Pole Grounded				
20 Ampere, 460 Volts AC; 250 Volts DC				
For 3¼-Inch Outlet Box				
XRP-320321-G	$6.00	3	ARP-320321-G	$5.30
XRP-320421-G	6.20	4	ARP-320421-G	5.50
For 4-Inch Outlet Box				
XRP-420321-G	6.00	3	ARP-420321-G	5.30
XRP-420421-G	6.20	4	ARP-420421-G	5.50
15A., 460V., AC; 5A., 125V., DC; 1.5A., 250V., DC				
For 3¼-Inch Outlet Box				
XRP-310621-G	7.60	6	ARP-310621-G	6.90
XRP-310821-G	8.60	8	ARP-310821-G	7.90
For 4-Inch Outlet Box				
XRP-410621-G	7.60	6	ARP-410621-G	6.90
XRP-410821-G	8.60	8	ARP-410821-G	7.90

TYPE ARPF TRIPLOC RECEPTACLES

For 4-Inch Outlet Boxes

Type ARPF Flush—Plain Pressed Steel

Fit only outlet boxes having a minimum inside depth of 2⅛ inches.

Type ARPF Triploc Receptacles take Type APD Triploc Plugs listed on another page.

STYLE "H"—With No Provision for Grounding

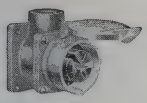
Cat. No.	Poles	Amperes 460V AC	Amperes 125V DC	Amperes 250V DC	List Price
ARPF-420221	2	20	20	20	$4.60
ARPF-420321	3	20	20	20	4.80
ARPF-420421	4	20	20	20	5.00
ARPF-410621	6	15	5	1.5	6.40
ARPF-410821	8	15	5	1.5	7.40
STYLE "J"—With One Pole Grounded					
ARPF-420321-G	3	20	20	20	5.00
ARPF-420421-G	4	20	20	20	5.20
ARPF-410621-G	6	15	5	1.5	6.60
ARPF-410821-G	8	15	5	1.5	7.60

PYLE-NATIONAL QUELARC CIRCUIT BREAKING RECEPTACLES AND PLUGS

STYLE "J"—GROUNDED THROUGH SHELL AND EXTRA POLE

Use only Style J Plugs with Style J Receptacles. Volts, 250-D.C. and 600-AC. Receptacles with Spring Door Housing. Plugs with Rubber Bushing Cable Grip. Receptacles take any plug grouped opposite the receptacle listings. Information on other types and sizes furnished on request.

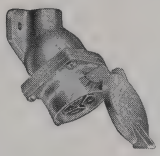
Type JRCA



Hinged Spring Door Housing with Gasket

Cat. No.	Size Inches	Price Each
2-Wire, 3-Pole		
20 Ampere, 2-Wire		
JRCA-12036*	½	$15.70
JRCA-22036*	¾	15.90
JRCA-32036*	1	16.10
30 Ampere, 2-Wire		
JRCA-13036†	½	17.30
JRCA-23036†	¾	17.50
JRCA-33036†	1	17.70
60 Ampere, 2-Wire		
JRCA-36036	1	27.50
JRCA-46036	1¼	27.70
JRCA-56036	1½	27.90
100 Ampere, 2-Wire		
JRCA-510036	1½	45.30
JRCA-610036	2	45.40
3-Wire, 4-Pole		
20 Ampere, 3-Wire		
JRCA-12046*	½	17.30
JRCA-22046*	¾	17.50
JRCA-32046*	1	17.70
30 Ampere, 3-Wire		
JRCA-13046†	½	18.90
JRCA-23046†	¾	19.10
JRCA-33046†	1	19.30
60 Ampere, 3-Wire		
JRCA-36046	1	31.50
JRCA-46046	1¼	31.70
JRCA-56046	1½	31.90
100 Ampere, 3-Wire		
JRCA-510046	1½	49.30
JRCA-610046	2	49.40
4-Wire, 5-Pole		
100 Ampere, 4-Wire		
JRCA-610056	2	62.40
JRCA-710056	2½	62.50

Type JRCBB



Hinged Spring Door Housing with Gasket

Cat. No.	Size Inches	Price Each
JRCBB-12036*	½	$15.90
JRCBB-22036*	¾	16.10
JRCBB-32036*	1	16.30
JRCBB-13036†	½	17.50
JRCBB-23036†	¾	17.70
JRCBB-33036†	1	17.90
JRCBB-36036	1	27.80
JRCBB-46036	1¼	28.00
JRCBB-56036	1½	28.20
JRCBB-510036	1½	46.60
JRCBB-610036	2	46.70
JRCBB-12046*	½	17.50
JRCBB-22046*	¾	17.70
JRCBB-32046*	1	17.90
JRCBB-13046†	½	19.10
JRCBB-23046†	¾	19.30
JRCBB-33046†	1	19.50
JRCBB-36046	1	31.80
JRCBB-46046	1¼	32.00
JRCBB-56046	1½	32.20
JRCBB-510046	1½	50.60
JRCBB-610046	2	50.70
JRCBB-610056	2	63.70
.....	.....	.....

Type JPD

With Rubber Bushing Cable Grip

Cat. No.	Diameter Cable	Price Each
JPD-32036*	.250 to .375	$14.30
JPD-42036*	.375 to .500	14.30
JPD-52036*	.500 to .625	14.30
JPD-62036*	.625 to .750	14.30
JPD-72036*	.750 to .875	14.30
JPD-33036†	.250 to .375	15.60
JPD-43036†	.375 to .500	15.60
JPD-53036†	.500 to .625	15.60
JPD-63036†	.625 to .750	15.60
JPD-73036†	.750 to .875	15.60
JPD-66036	.625 to .750	21.50
JPD-76036	.750 to .875	21.50
JPD-86036	.875 to 1.000	21.50
JPD-96036	1.000 to 1.125	21.50
JPD-106036	1.125 to 1.250	21.50
JPD-116036	1.250 to 1.375	21.50
JPD-910036	1.000 to 1.125	33.00
JPD-1010036	1.125 to 1.250	33.00
JPD-1110036	1.250 to 1.375	33.00
JPD-1210036	1.375 to 1.500	33.00
JPD-1310036	1.500 to 1.625	33.00
JPD-42046*	.375 to .500	15.90
JPD-52046*	.500 to .625	15.90
JPD-62046*	.625 to .750	15.90
JPD-72046*	.750 to .875	15.90
JPD-82046*	.875 to 1.000	15.90
JPD-43046†	.375 to .500	17.20
JPD-53046†	.500 to .625	17.20
JPD-63046†	.625 to .750	17.20
JPD-73046†	.750 to .875	17.20
JPD-83046†	.875 to 1.000	17.20
JPD-66046	.625 to .750	23.50
JPD-76046	.750 to .875	23.50
JPD-86046	.875 to 1.000	23.50
JPD-96046	1.000 to 1.125	23.50
JPD-106046	1.125 to 1.250	23.50
JPD-116046	1.250 to 1.375	23.50
JPD-910046	1.000 to 1.125	37.00
JPD-1010046	1.125 to 1.250	37.00
JPD-1110046	1.250 to 1.375	37.00
JPD-1210046	1.375 to 1.500	37.00
JPD-1310046	1.500 to 1.625	37.00
JPD-1410046	1.625 to 1.750	37.00
JPD-1210056	1.375 to 1.500	53.00
JPD-1310056	1.500 to 1.625	53.00
JPD-1410056	1.625 to 1.750	53.00

*Furnished with binding screw terminals. †Furnished with soldered type terminals.

DISCOUNTS: SCHEDULE "AD"

R & S MANUAL MOTOR STARTERS

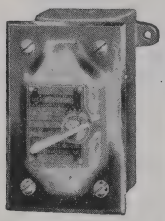
EXPLOSION-PROOF AND DUST-TIGHT

Class I, Groups C and D

NEMA SIZE 00

With Thermal Overload Protection

Types EFS—1 H.P. 110-220 Volts A.C. Rating



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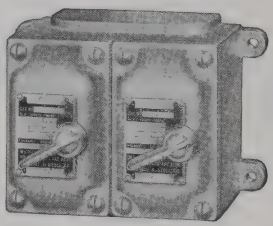


No. 4495

Type	Net Wt. Lbs.	Single Pole Cat. No.	Single Pole List Each	Double Pole Cat. No.	Double Pole List Each
1 Gang Surface	6	4491	$13.50	4492	$15.00
2 Gang Surface	11	4494	27.00	4495	30.00
1 Gang Flush	7	4491F	14.50	4492F	16.00

Heater included when full load current rating of motor is specified on order.

3 gang units for surface mounting can be supplied at 3 times cost of 1 gang unit.

The above starters can be furnished for D.C. at no additional cost, if specified.

Enclosures—Cast iron, corrosion resisting finish.

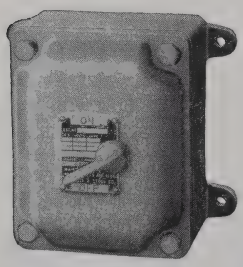
Outlets—Maximum 1-inch top and bottom. Specify size and location when ordering.

R & S MANUAL MOTOR STARTERS

EXPLOSION-PROOF AND DUST-TIGHT

Class I, Groups C and D

NEMA Size 0—With Thermal Overload Protection



No. 4293

Quick Make—Quick Break

Complete with heater. Full load current rating of motor must be specified on order.

Enclosures — Cast iron, corrosion resisting finish.

Outlets — Maximum 1-inch top and bottom. Specify size and location when ordering.

Switch	Phase	Maximum 110 V. A.C.	Maximum 220-440 V. A.C.	Maximum 115 V. D.C.	Maximum 230 V. D.C.	Cat. No.	List Each
2 Pole	1	1	1½	1	1½	4292	$30.00
3 Pole	3 & 2	1½	2	--	-----	4293	40.00
4 Pole	2	1½	2	--	1	4294	50.00

R & S MANUAL STARTERS

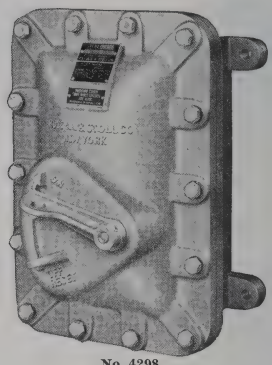
FOR A.C. AND D.C. MOTORS

EXPLOSION-PROOF AND DUST-TIGHT

Class I, Groups C and D

WATERTIGHT AND DUST-TIGHT

Class II, Groups E, F and G



No. 4298

Thermal Overload Protection

Quick Make and Quick Break

It is impossible to hold starter in the "on" position against a damaging overload. Starter trips free of handle.

Enclosure—Cast iron, corrosion resisting finish.

Outlets—Maximum 1¼-inch. Specify size and location when ordering.

Full load current rating of motor must be specified on order.

Complete details on request.

Complete Starter with Heaters

Poles	Size No.	Maximum HP 110V	Maximum HP 208-220V	Maximum HP 440-660V	Cat. No.	List Each
Explosion-Proof Type						
1 Phase	0	1	1½	1½	4298S0	$50.00
2 Pole	1	1½	3	5	4298S1	55.00
•3 Phase	0	1½	2	2	4298S30	50.00
3 Pole	1	3	5	7½	4298S31	55.00
D.C.	0	1	1	-----	4298D0	50.00
2 Pole	1	1	1½	-----	4298D1	55.00
Watertight Type						
1 Phase	0	1	1½	1½	WP4298S0	45.00
2 Pole	1	1½	3	5	WP4298S1	50.00
•3 Phase	0	1½	2	2	WP4298S30	45.00
3 Pole	1	3	5	7½	WP4298S31	50.00
D. C.	0	1	1	-----	WP4298D0	45.00
2 Pole	1	1	1½	-----	WP4298D1	50.00

Extra Heaters **$2.00** list each. 1 required for 2 pole; 2 for 3 pole.

•May be used on 2-phase 4-wire circuits by running one wire direct to motor.

R & S A.C. AUTOMATIC STARTERS

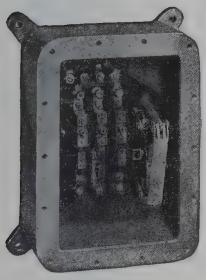
Across-the-Line Type—Automatic Reset

EXPLOSION-PROOF AND DUST-TIGHT

Class I, Group D

WATERTIGHT AND DUST-TIGHT

Class II, Groups E, F and G



Complete with Heavy Service Automatic Reset Starter.

Solderless lugs standard.

Enclosures—Cast iron, corrosion resisting finish.

Outlets — Size 0-1, maximum 2 inches; size 2-3, maximum 3 inches. Specify size and location when ordering.

Complete details on request.

NEMA Size	Poles	Max. HP Single Phase	Max. HP Poly-Phase	Explosion-Proof Cat. No.	Explosion-Proof List Each	Watertight Cat. No.	Watertight List Each
110V. A.C. Separate Control Circuit. 110-600V. A.C. Line Voltage							
0	2	1		4650	$85.00	WP4650	$80.00
	3		1½	4654	85.00	WP4654	80.00
1	2	1½		4662	90.00	WP4662	85.00
	3		3	4666	90.00	WP4666	85.00
	4		3	4670	102.00	WP4670	97.00
2	3		7½	4674	210.00	WP4674	205.00
	4		7½	4678	230.00	WP4678	225.00
3	3		15	*4682	240.00	*WP4682	235.00
	4		15	*4686	270.00	*WP4686	265.00
208-220 Volts A.C.							
0	2	1½		4651	85.00	WP4651	80.00
	3		2	4655	85.00	WP4644	80.00
1	2	3		4663	90.00	WP4663	85.00
	3		5	4667	90.00	WP4667	85.00
	4		5	4671	102.00	WP4671	97.00
2	3		15	4675	210.00	WP4675	205.00
	4		15	4679	230.00	WP4679	225.00
3	3		30	4683	240.00	WP4683	235.00
	4		30	4687	270.00	WP4687	265.00
440 Volts A.C.							
0	3		2	4656	85.00	WP4656	80.00
1	3		7½	4668	90.00	WP4668	85.00
	4		7½	4672	102.00	WP4672	97.00
2	3		25	4676	210.00	WP4676	205.00
	4		25	4680	230.00	WP4680	225.00
3	3		50	4684	240.00	WP4684	235.00
	4		50	4688	270.00	WP4688	265.00
550-600 Volts A.C.							
0	3		2	4657	85.00	WP4657	80.00
1	3		7½	4669	90.00	WP4669	85.00
	4		7½	4673	102.00	WP4673	97.00
2	3		25	4677	210.00	WP4677	205.00
	4		25	4681	230.00	WP4681	225.00
3	3		50	4685	240.00	WP4685	235.00
	4		50	4689	270.00	WP4689	265.00

*When used on line voltage above 440 V. specify voltage. Relay heaters **$2.00** list each — not included in above prices. 1 required for 2 pole; 2 for 3 and 4 pole. Full load current rating of motor must be specified on order.

Above listings are for Remote Control. For Local Control with push button in cover add suffix "L" to catalog number and add **$12.00** to list price. (Available for sizes 0 and 1 only.)

R & S A.C. COMBINATION STARTERS

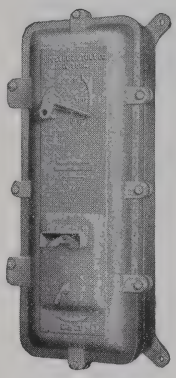
TYPE CBS—EXPLOSION-PROOF AND DUST-TIGHT

Class I, Group D—NEMA Type 7

TYPE CBSW—WATERTIGHT AND DUST-TIGHT

Class II, Groups E, F and G

NEMA Types 4, 5 and 9



Types CBS Combination Starters combine an air brake circuit breaker with a line voltage magnetic starter in a single, convenient enclosure.

Specify catalog number, horsepower, voltage, phase, cycles, full load current rating of motor and circuit breaker trip amperes; when ordering. Also size and location of outlets.

Maximum Conduit—2-inch top and bottom; 1½-inch on sides.

Complete details on request.

NEMA Size	Max. HP Single phase	Max. HP Poly-phase	Poles	Circuit Breaker Amps.	Explosion-Proof Cat. No.	Explosion-Proof List Each	Watertight Cat. No.	Watertight List Each
208-220 Volts A.C.					CBS		CBSW	
0	1½	2	2	15	2020	$130.00	2020	$120.00
			3	15	2030	135.00	2030	125.00
1	3	5	2	30	2122	145.00	2122	135.00
			2	40	2123	145.00	2123	135.00
			3	15	2130	150.00	2130	140.00
			3	20	2131	150.00	2131	140.00
			3	30	2133	150.00	2133	140.00
			3	50	2134	150.00	2134	140.00
2		15	3	50	2234	210.00	2234	195.00
				70	2235	225.00	2235	210.00
				100	2236	225.00	2236	210.00
3		25	3	100	2336	475.00	2336	445.00
				100	2337	475.00	2337	445.00
440 Volts A.C.								
0		2	3	15	4030	170.00	4030	160.00
1		7½	3	15	4130	175.00	4130	165.00
				20	4132	175.00	4132	165.00
				30	4133	175.00	4133	165.00
2		25	3	40	4233	230.00	4233	215.00
				50	4234	230.00	4234	215.00
				70	4235	240.00	4235	225.00
3		50	3	70	4335	495.00	4335	465.00
				100	4336	495.00	4336	465.00
				100	4337	495.00	4337	465.00
550 Volts A.C.								
0		2	3	15	5030	170.00	5030	165.00
1		7½	3	15	5130	175.00	5130	165.00
				20	5131	175.00	5131	165.00
				30	5133	175.00	5133	165.00
2		25	3	20	5232	230.00	5232	215.00
				40	5233	230.00	5233	215.00
				50	5234	230.00	5234	215.00
				70	5235	240.00	5235	225.00
3		50	3	50	5334	485.00	5334	455.00
				70	5335	495.00	5335	465.00
				100	5337	495.00	5337	465.00

Above listings are for Remote Control. For Local Control with push button in cover suffix "L" to catalog number and add **$12.00** to list price.

Special combinations and unlisted ratings can be supplied. Any 250 volt unit can be furnished with 460 volt instantaneous or time delay trip magnetic breaker. Prices and further information on request.

R & S AIR BREAK CIRCUIT BREAKERS

EXPLOSION-PROOF AND DUST-TIGHT

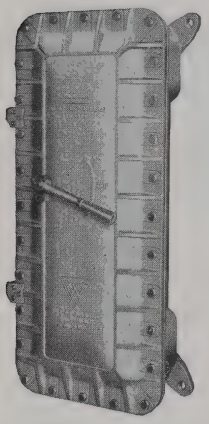
Class I, Group D

WATERTIGHT AND DUST-TIGHT

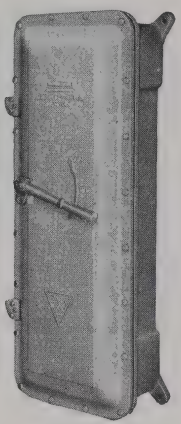
Class II, Groups E, F and G

15 to 600 Amps.—125 to 600 V. A.C.

125 to 250 V. D.C. 1, 2 or 3 Pole



Explosion-Proof



Watertight

Circuit Breaker Frame Sizes and Data

Frame Size	Amp. Range	NEMA Amp. Interrupting Cap.	Trip Unit
50	15– 50	5,000	Non-Interchangeable
100	15–100	15,000	Non-Interchangeable
100	50–100	15,000	Interchangeable
225	70–225	15,000	Interchangeable
600	125–600	25,000	Interchangeable

Voltage

50 amperes frame size—250 V. A.C., 125/250 V. D.C. 100 to 600 amperes frame size—250 V. A.C., 125/250 V. D.C. and 600 V. A.C., 250 V. D.C.

Enclosure Data

All enclosures are precision built of high tensile cast iron alloy and have a corrosion resisting finish. Ample width provides space between case of breaker and wall of enclosure for through wiring.

Enclosures for the 225 and 600 amp. frame sizes are provided with hinged covers. Hinges are of cast bronze and permit complete removal of cover.

Conduit Outlets

Enclosures are provided with heavy pads for conduit tapping on sides as well as top and bottom. Specify size and location of outlets, when ordering.

Operating Data

Operating handles are of exceptionally rugged design and have means for padlocking in both the "ON" and "OFF" position. A nickel silver operating shaft passes through an Oilite Bronze bearing to insure against freezing. Substantially built slide mechanism on inside of cover transmits an in-line thrust to the breaker handle.

Complete details, listing and prices on application.

R & S PANELBOARDS WITH CIRCUIT BREAKERS

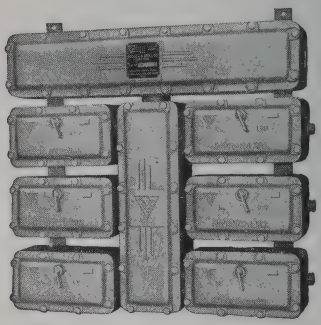
EXPLOSION-PROOF AND DUST-TIGHT

Class I, Group D

Type SPL—with 1 pole 125 V. D.C.—A.C. Branch Circuit Breakers

Type DPL—with 2 pole 250 Volt Branch Circuit Breakers

Type TPL—with 3 pole 250 Volt Branch Circuit Breakers



6 Circuit

Panelboards are wired complete — ready for field connections.

Can be furnished with any combination of 1, 2 or 3 pole breakers having same or varying capacities of 15, 20, 25, 35 or 50 amps. Specify requirements.

Complete with breakers.

Prices on application.

Amps.	SPL Cat. No.	SPL List Each	DPL Cat. No.	DPL List Each	TPL Cat. No.	TPL List Each
			4-Circuit			
15	SPL-415		DPL-415		TPL-415	
20	SPL-420	$200.00	DPL-420	$270.00	TPL-420	$400.00
25	SPL-425		DPL-425		TPL-425	
			6-Circuit			
15	SPL-615		DPL-615		TPL-615	
20	SPL-620	240.00	DPL-620	340.00	TPL-620	540.00
25	SPL-625		DPL-625		TPL-625	
			8-Circuit			
15	SPL-815		DPL-815		TPL-815	
20	SPL-820	300.00	DPL-820	440.00	TPL-820	680.00
25	SPL-825		DPL-825		TPL-825	
			10-Circuit			
15	SPL-1015		DPL-1015		TPL-1015	
20	SPL-1020	340.00	DPL-1020	505.00	TPL-1020	820.00
25	SPL-1025		DPL-1025		TPL-1025	
			12-Circuit			
15	SPL-1215		DPL-1215		TPL-1215	
20	SPL-1220	380.00	DPL-1220	635.00	TPL-1220	960.00
25	SPL-1225		DPL-1225		TPL-1225	
			14-Circuit			
15	SPL-1415		.....		.....	
20	SPL-1420	440.00	.....		.....	
25	SPL-1415		.....		.....	
			16-Circuit			
15	SPL-1615		.....		.....	
20	SPL-1620	480.00	.....		.....	
25	SPL-1625		.....		.....	

Enclosures—Cast iron, corrosion resisting finish. Specify size and location of outlets, also wiring system required. Additional circuits available. Prices and complete details on request.

R & S PANELBOARDS WITH CIRCUIT BREAKERS
EXPLOSION-PROOF AND DUST-TIGHT
Class I, Group D

Type SPH—with 1 pole 125 V. D.C.—250 V. A.C. Branch Circuit Breakers
Type DPH—with 2 pole 250 Volt Branch Circuit Breakers
Type TPH—with 3 pole 250 Volt Branch Circuit Breakers

4-Circuit Explosion-Proof Panel TPH-14

Complete with Circuit Breakers

No. of 15-20 Amp. Branch Circ. Breakers	SPH List Each	DPH List Each	TPH List Each
4	$135.00	$265.00	$325.00
6	230.00	335.00	425.00
8	265.00	405.00	515.00
10	300.00	.....	.....
12	335.00	.....	.....
14	370.00	.....	.....
16	405.00	.....	.....

Enclosures—Cast iron, corrosion resisting finish.

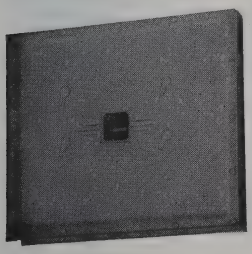
Wiring—Panels are completely wired, ready for connection of main and branch wires. Specify wiring system, also size and location of outlets required.

Can be furnished with combinations of 1, 2 or 3 pole breakers having same or varying capacities of 15, 20, 30, 40 or 50 amps. Specify requirements.

Prices, catalog numbers and complete details on request.

R & S PANELBOARDS WITH CIRCUIT BREAKERS
WATERTIGHT AND DUST-TIGHT
Class II, Groups E, F and G; and Class III and IV

Type SWP—with 1 pole 125 V. D.C.—250 V. A.C. Branch Circuit Breakers
Type DWP—with 2 pole 250 Volt Branch Circuit Breakers
Type TWP—with 3 pole 250 Volt Branch Circuit Breakers



Panels are completely wired ready for connection of main and branch wires.

Prices vary slightly according to wiring system required. Prices listed are for 3 phase.

Complete with Circuit Breakers

No. of 15-20 Amp. Branch Circ. Breakers	SWP List Each	DWP List Each	TWP List Each
4	.....	$200.00	$300.00
8	$190.00	300.00	525.00
12	.....	530.00	660.00
16	290.00	640.00	1050.00
24	500.00	.....	.....
32	640.00	.....	.....

Enclosures—Cast iron, corrosion resisting finish. Specify size and location of outlets, also wiring system required. Can be furnished with combinations of 1, 2 or 3 pole breakers having same or varying capacities of 15, 20, 30 or 50 amps. Specify requirements. Prices on request.

R & S AIR BREAK CIRCUIT BREAKER CABINETS
VAPORTIGHT AND DUST-TIGHT
Class II, Groups E, F and G

Type CBC—with 1 pole 125 V. D.C.—250 V. A.C. Branch Circuit Breakers
Type DBC—with 2 pole 250 Volt Branch Circuit Breakers

No. CBC 615

Furnished with terminal block, on which is mounted a neutral bus with wire terminals, so that circuit breakers may be used independently, or as a panel board.

Enclosures—Cast iron, corrosion resisting finish.

Maximum conduit 2-inch.

Specify size and location when ordering.

Rating of Circuit Breaker*

No. of Circuit Breakers	15 Amp. Cat. No.	20 Amp. Cat. No.	25 Amp. Cat. No.	List Each
Complete with 1 Pole Circuit Breakers				
2	CBC215	CBC220	CBC225	$78.00
3	CBC315	CBC320	CBC325	85.00
4	CBC415	CBC420	CBC425	93.00
5	CBC515	CBC520	CBC525	100.00
6	CBC615	CBC620	CBC625	107.00
Complete with 2 Pole Circuit Breakers				
2	DBC215	DBC220	DBC225	95.00
3	DBC315	DBC320	DBC325	110.00

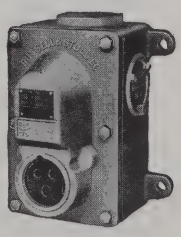
*Can be furnished with 40 ampere, or 50 ampere circuit breakers for single or double pole circuit breakers at additional cost.

R & S INTERLOCKED SWITCH RECEPTACLES AND PLUGS
EXPLOSION-PROOF AND DUST-TIGHT
Class I, Groups C and D
30 Amp., 250V. — 15 Amp., 440V., A.C.
Two and Three Wire

For use in chemical plants, oil refineries, distilleries, solvent areas, etc., under Class I locations. Plug interlocks with switch and cannot be withdrawn or inserted under load. Rotating member of plug throws switch to "on" or "off" position. Separate ground pole which "makes" first and "breaks" last.

Enclosures — Cast iron, corrosion resisting finish.

Outlets — Maximum 1-in. Specify size and location when ordering.

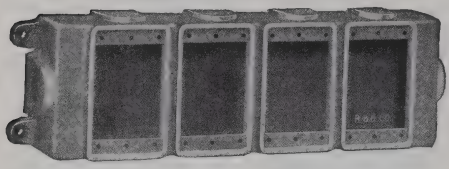


No. 4240C

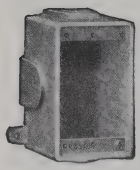
Description Wire	Pole	Single Gang Cat. No.	Single Gang Price Each	Two Gang Cat. No.	Two Gang Price Each
Type C—No Cover—Receptacle Less Plug					
2	3	4240C	$28.00	4240C2	$56.00
3	4	4242C	32.00	4242C2	64.00
Type FC—Flap Cover—Receptacle Less Plug					
2	3	4240FC	30.00	4240FC2	60.00
3	4	4242FC	35.00	4242FC2	70.00
Type SC—Screw Cover—Receptacle Less Plug					
2	3	4240SC	30.00	4240SC2	60.00
3	4	4242SC	35.00	4242SC2	70.00
Plugs For Type C, FC and SC					
2	3	4241	7.00	.....	.....
3	4	4243	8.00	.....	.....

R & S CONDUIT BOXES

TYPE FS AND FD CONDUIT BOXES



Type FS—Four Gang

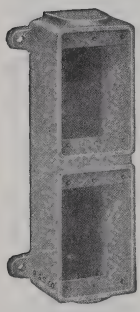


Type FS

Maximum conduit, 1-inch. Single-gang, 4-way; multi-gang, one outlet on one side, one per gang on opposite side and one on each end.

Finishes: Cast iron, aluminized finish; cast brass, bright dip.

Type	Cast Iron Cat. No.	Cast Iron Price Each	Cast Brass Cat. No.	Cast Brass Price Each
Single-Gang				
FS	2701	$1.25	3721	$3.60
FD	3711	1.50	3731	4.25
Two-Gang				
FS	3702	2.50	3722	7.20
FD	3712	3.00	3732	8.50
Three-Gang				
FS	3703	3.75	3723	10.80
FD	3713	4.50	3733	12.75
Four-Gang				
FS	3704	5.00	3724	14.40
FD	3714	6.00	3734	17.00
Two-Gang — Tandem				
FS	3715	2.50	3735	7.20
FD	-------	-------	-------	-------



Tandem

Adapter plates can be furnished for flush mounting.

TYPE DSFD—SINGLE-GANG ONLY

Will accommodate same devices as FS and FD boxes. Can be tapped for two ½-inch or one 1½-inch outlet maximum at each end.

Dimensions: 4⅛ x 3⅝ x 4⅛ inches deep. These boxes are for surface mounting. Adapter plates can be furnished for flush mounting.

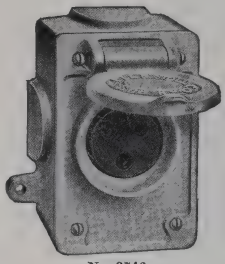
Type DSFD

Cat. No.	Description	Net Wt. Lbs.	Price Each
3781	Cast Iron (aluminized)	5½	$2.50
3782	Cast Brass (bright dip)	6	7.20

No additional charge is made for drilling outlets when boxes are ordered as part of complete devices. When ordering boxes only, there is an additional charge: ½ or ¾-inch conduit size, **$0.10**; 1-inch, **$0.20**; 1¼-inch, **$0.40**; 1½-inch, **$0.50**.

R & S RECEPTACLES AND PLUGS

FS AND FD WEATHERPROOF RECEPTACLES FOR STANDARD SERVICE



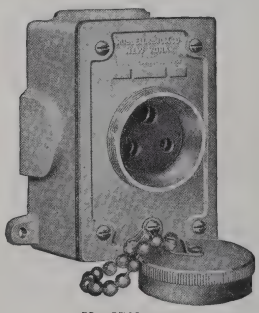
No. 3746

No. 3819

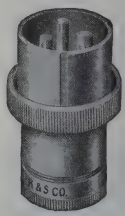
Style Wire	Pole	Receptacles Less Plugs: Cast Iron With Box 3701 Cat. No.	Cast Iron With Box 3701 Price Each	Receptacles Less Plugs: Cast Brass With Box 3721 Cat. No.	Cast Brass With Box 3721 Price Each	Plugs Only Cat. No.	Plugs Only Price Each
10 Amp., 440V. A.C.—20 Amp., 125V. D.C.							
*2	2	3745	$5.00	3765	$8.00	3818	$3.50
2	3	3746	5.50	3766	8.50	3819	4.00
3	4	3747	6.00	3767	9.00	3820	4.50
20 Amp., 440V. A.C.—†30 Amp., 125V. D.C.							
*2	2	3755	5.50	3768	8.50	3828	4.00
2	3	3756	6.00	3769	9.00	3829	4.50
3	4	3757	6.50	3770	9.50	3830	5.00

FS AND FD WATERTIGHT RECEPTACLES

For Standard Service



No. 3743



No. 3720

Style Wire	Pole	Receptacles Less Plugs: Cast Iron With Box 3701 Cat. No.	Cast Iron With Box 3701 Price Each	Receptacles Less Plugs: Cast Brass With Box 3721 Cat. No.	Cast Brass With Box 3721 Price Each	Plugs Only Cat. No.	Plugs Only Price Each
10 Amp., 440V. A.C.—20 Amp., 125V. D.C.							
*2	2	3742	$5.00	3762	$8.00	3710	$4.00
2	3	3743	5.50	3763	8.50	3720	4.50
3	4	3744	6.00	3764	9.00	3730	5.00
20 Amp., 440V. A.C.—†30 Amp., 125V. D.C.							
*2	2	3752	5.50	3772	8.50	3740	4.50
2	3	3753	6.00	3773	9.00	3750	5.00
3	4	3754	6.50	3774	9.50	3760	5.50

†Also rated at 30 amps., 250 volts D.C.

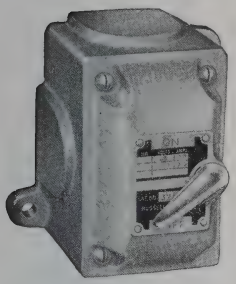
*Plugs and receptacles so marked have no provision for equipment grounding. All others have equipment ground through separate pole.

Finish: Cast iron, corrosion resisting finish. Cast brass, bright dip.

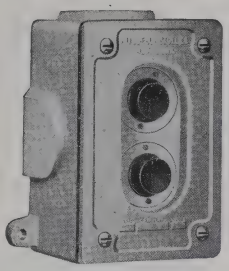
Outlets: 1--nch maximum 4iway. Specify size and location when ordering.

R & S TYPE FS AND FD SWITCHES

WATERTIGHT



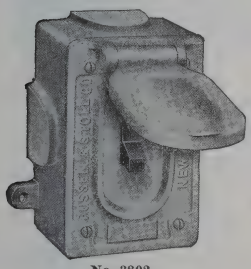
No. 3705



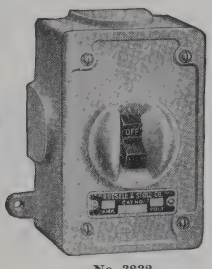
No. 3749

Type	*Amp. Rating 125V.	250V.	Cast Iron With Box 3701 Cat. No.	List Each	Cast Brass With Box 3721 Cat. No.	List Each
S-P	10	5	3705	$5.00	3725	$8.00
2-P	10	10	3706	6.00	3726	9.00
3-P	15	15	3707	9.00	3727	12.00
3-Way	10	5	3708	6.50	3728	9.50
4-Way	10	5	3709	10.00	3729	13.00
Push Button Station						
Start (N.O.)			3741	6.00	3751	9.00
Stop (N.C.)			3748	6.00	3758	9.00
Start and Stop			3749	7.50	3759	10.50

WEATHERTIGHT AND PROTECTED TYPE



No. 3802



No. 3832

Type	*Amp. Rating 125V.	250V.	Cast Iron With Box 3701 Cat. No.	List Each	Cast Brass With Box 3721 Cat. No.	List Each
Weathertight						
S-P	10	5	3802	$5.00	3812	$8.00
2-P	10	10	3803	6.00	3813	9.00
3-P	15	15	3804	9.00	3814	12.00
3-Way	10	5	3805	6.50	3815	9.50
4-Way	10	5	3806	10.00	3816	13.00
Protected Type						
S-P	10	5	3832	$4.50	3852	$7.50
2-P	10	10	3833	5.50	3853	8.50
3-P	15	15	3834	8.50	3854	11.50
3-Way	10	5	3835	6.00	3855	9.00
4-Way	10	5	3836	9.50	3856	12.50

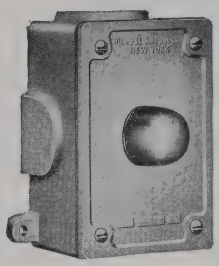
*20 and 30-amp. switches, prices on request.

Finish: Cast iron, corrosion resisting finish. Cast brass, bright dip.

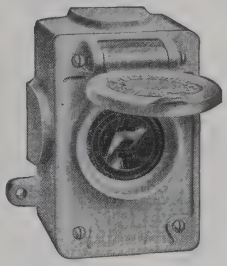
Outlets: 1-inch maximum, 4-way. Specify size and location when ordering.

R & S TYPE FS AND FD CONDUIT BOX FITTINGS

WATERTIGHT AND WEATHERTIGHT FITTINGS



No. 3801



No. 3908

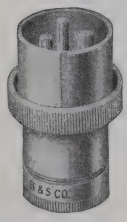
Watertight Pilot Light Indicator Complete with 120-Volt Lamp

Description	Cast Iron With Box 3701 Cat. No.	Price Each	Cast Brass With Box 3721 Cat. No.	Price Each
1 Light, Clear Lens	3801	$5.00	3811	$8.00
1 Light, Red Lens	3801R	5.00	3811R	8.00
1 Light, Green Lens	3801G	5.00	3811G	8.00
1 Light, Amber Lens	3801A	5.00	3811A	8.00
2 Light—Any Above Lens	3807	8.00	3817	11.00
Weathertight Convenience Receptacle—2 Pole				
15A., 125V.	3908	4.50	3918	7.50

Cast iron boxes, corrosion resisting finish. Cast brass boxes, bright dip. Outlets: 1-inch maximum, 4-way. Specify size and location when ordering. Adapter plates can be furnished for flush mounting.

R & S WATERTIGHT CONNECTORS

STANDARD SERVICE



No. 3720

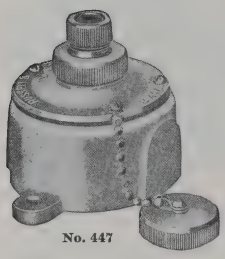
No. 3913

Style Wire	Pole	Complete Male & Female Cat. No.	Price Each	Male End Only Cat. No.	Price Each	Female End Only Cat. No.	Price Each
10 Amp., 440-Volt A.C.—250-Volt D.C. 20 Amp., 125-Volt D.C.							
Cable Diameter: $\frac{27}{32}$-inch.							
*2	2	3902	$7.50	3710	$4.00	3912	$3.50
2	3	3903	8.50	3720	4.50	3913	4.00
3	4	3904	9.50	3730	5.00	3914	4.50
20 Amp., 440-Volt A.C.; 30 Amp., 250-Volt D.C.							
Cable Diameter: $1\frac{1}{16}$-inch.							
*2	2	3922	8.50	3740	4.50	3932	4.00
2	3	3923	9.50	3750	5.00	3933	4.50
3	4	3924	10.50	3760	5.50	3934	5.00

*Have no provision for equipment grounding All others have equipment ground through separate pole.

R & S MARINE RECEPTACLES AND PLUGS

CAST BRASS—WATERTIGHT


No. 447

10 AMP., 125 VOLTS

2-Wire—Polarized

Standard Round Type

Maximum conduit ¾-inch — straight through. Specify size and location when ordering.

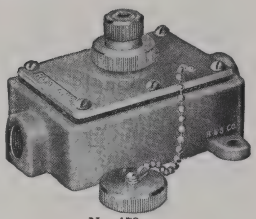
Cat. No.	Description	Price Each
447	With Plug	$5.00
452	Plug Only	1.25

10 AMP., 125 VOLTS—2-, 3-, AND 4-WIRE POLARIZED

Standard Rectangular Type—Single Gang

Maximum outlets: ¾-inch straight through for conduit or integral terminal glands.

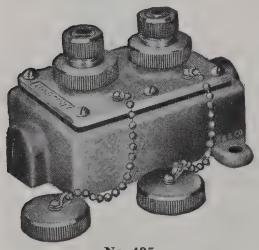
Specify size and location of outlets when ordering.


No. 479

Style	With Plug Cat. No.	With Plug Price Each	Plug Only Cat. No.	Plug Only Price Each
2-Wire	479	$5.50	452	$1.25
3-Wire	1479	6.00	1453	1.50
4-Wire	1579	12.00	1463	4.00

10 AMP., 125 VOLTS—2-WIRE—POLARIZED

Standard Rectangular Type


No. 495

Outlets: Maximum ¾-inch straight through for conduit or integral terminal glands.

Specify size and location of outlets when ordering.

Cat. No.	Description	Price Each
495	2-Gang, with 2 Plugs	$8.50
638	3-Gang, with 3 Plugs	12.00
639	4-Gang, with 4 Plugs	16.50
452	Plug Only	1.25

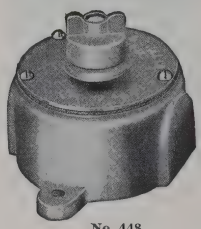
Can also be supplied with overhang cover for flush mounting. Price upon application.

R & S MARINE SWITCHES AND RECEPTACLES

CAST BRASS—WATERTIGHT

Switches Rated: 10 Amp., 250 Volt

SINGLE GANG SWITCHES


No. 448

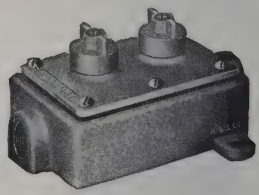
Box: Round type is suitable for ½- or ¾-inch outlet one way, or straight through. Specify size and location when ordering.

Box: Round type is suitable for ½- or ¾-inch outlet one way, or straight through. Straight Side type is provided with two ½- or ¾-inch outlets in side as illustrated. Specify size and location when ordering.

Type Switch	Description	Cat. No.	Price Each
S.P.	Round Box Type	448	$5.00
D.P.	Round Box Type	1520	5.25
3-Way	Round Box Type	1522	5.25

ONE, TWO, THREE, FOUR-GANG SWITCHES

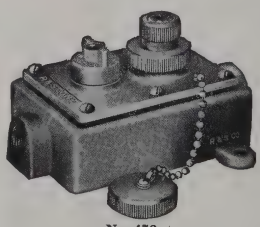
Outlets: Maximum ¾-inch straight through for conduit or terminal glands. Specify size and location when ordering.


No. 627

One Gang Cat. No.	One Gang Price Each	Two Gang Cat. No.	Two Gang Price Each	Three Gang Cat. No.	Three Gang Price Each	Four Gang Cat. No.	Four Gang Price Each
With Single Pole Switches							
496	$5.50	627	$8.50	628	$12.00	629	$16.50
With Double Pole Switches							
1493	5.75	631	9.00	632	12.75	633	17.50
With 3-Way Switches							
1496	5.75	634	9.00	635	12.75	636	17.50

SWITCH AND RECEPTACLE WITH PLUGS

10 Amp., 125 Volts—2-Wire

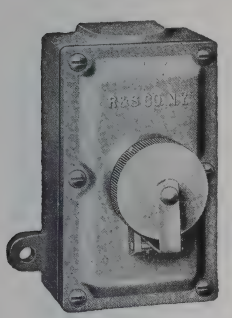

No. 478

Combination of single or double pole switch and one or two receptacles mounted in one box. Other combinations on special order.

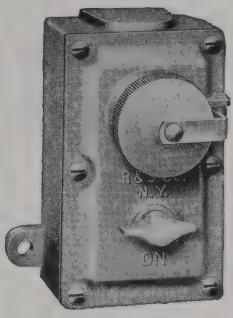
Outlets: Maximum ¾-inch straight through for conduit or terminal glands. Specify size and location when ordering.

Description	S.P. Switch Cat. No.	S.P. Switch Price Each	D.P. Switch Cat. No.	D.P. Switch Price Each
1 Recept. and 1 Plug	478	$8.50	1478	$8.75
2 Recepts. and 2 Plugs	498	12.00	1498	12.25
Plug Only	453	1.25	452	1.25

R & S MARINE STANDARD RECEPTACLES AND PLUGS
WITH EXTRA POLE FOR GROUNDING
Cast Bronze—Straight Type—Waterproof



No. 479-45

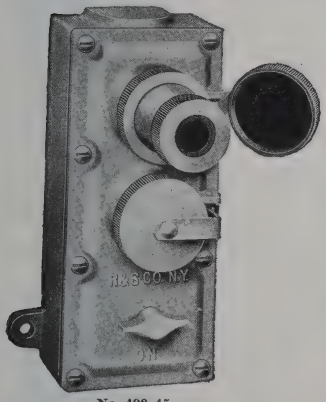


No. 478-45

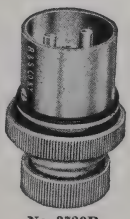
RECEPTACLES COMPLETE LESS PLUGS

Description	Cat. No.	List Each
Two Wire—Three Pole		
One Gang	479–45	$9.00
Two Gang	495–45	13.00
Three Gang	638–45	18.00
Plug Only	3720B	5.00
Three Wire—Four Pole		
One Gang	1479–45	9.50
Two Gang	1495–45	14.00
Three Gang	1638–45	19.50
Plug Only	3730B	5.50

COMBINATION OF SWITCH AND RECEPTACLE
*Two Wire—Three Pole
Receptacle and Switch as Listed



No. 498-45



No. 3720B

COMBINATION COMPLETE LESS PLUGS

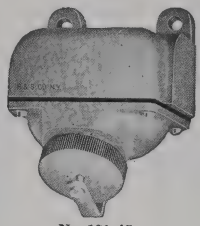
Description	Cat. No.	List Each
S.P. Sw. and 1 Rec.	478–45	$12.75
D.P. Sw. and 1 Rec.	1478–45	13.00
S.P. Sw. and 2 Rec.	498–45	18.25
D.P. Sw. and 2 Rec.	1498–45	18.50
Plug Only	3720B	5.00

Rating—Receptacles and plugs, 10 amp. 250V. D.C., 440V. A.C.—20 amp. 125V. D.C.

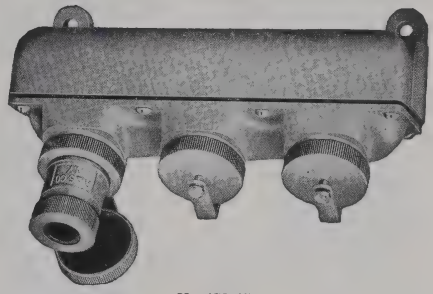
All switch and receptacle interiors are interchangeable.

*Can also be furnished with 3 wire—4 pole receptacles at **$0.50** list per receptacle additional, when specified on order.

R & S MARINE STANDARD RECEPTACLES AND PLUGS
WITH EXTRA POLE FOR GROUNDING
Cast Bronze—Angle Type—Waterproof



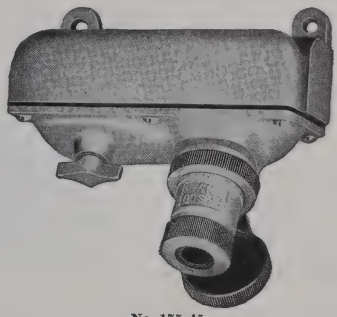
No. 171-45



No. 173-45

Receptacles Complete Less Plugs

Description	2-Wire, 3-Pole Cat. No.	2-Wire, 3-Pole List Each	3-Wire, 4-Pole Cat. No.	3-Wire, 4-Pole List Each
One Gang	171–45	$8.00	1171–45	$8.50
Two Gang	172–45	14.00	1172–45	15.00
Three Gang	173–45	19.50	1173–45	21.00
Plug Only	3720B	5.00	3730B	5.00



No. 175-45

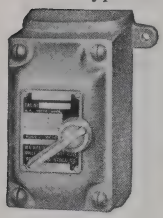
COMBINATION OF SWITCH AND RECEPTACLE
*Two Wire—Three Pole Receptacle and Switch
Combination Complete Less Plug

Description	Cat. No.	List Each
S.P. Sw. and 1 Rec.	175–45	$13.75
D.P. Sw. and 1 Rec.	177–45	14.00
S.P. Sw. and 2 Rec.	176–45	19.25
D.P. Sw. and 2 Rec.	178–45	19.50
Plug Only	3720B	5.00

Ratings—Receptacles and plugs, 10 amp. 250V. D.C., 440V. A.C.—20 amp. 125V. D.C. Switches, 10 amp. 250V. All switch and receptacle interiors are interchangeable.

*Can also be furnished with 3 wire—4 pole receptacles at **$0.50** list per receptacle additional, when specified on order.

R & S TUMBLER SWITCHES
EXPLOSION-PROOF AND DUST-TIGHT
Class I, Groups C and D
Types EFS—Surface Mounting


No. 4411

For Heavy Duty Type C Lamp Loads—Single Gang

†Available in 2 and 3 gang assemblies. Prices on application.

†Flush mounting units available. Prices on application.

Outlets — Maximum 1-inch top and bottom. Specify size and location when ordering.

Switch	Amperes 125V.	Amperes 250V.	Cat. No.	List Each
	10	5	4411	$6.10
†1 pole	20	20	4411S2	6.90
	30	30	4411S3	7.70
	10	10	4412	6.90
†2 pole	20	20	4412D2	7.70
	30	30	4412D3	8.80
	10	5	4414	6.60
†3 way	20	20	4414T2	7.50
	30	30	4414T3	8.50
	10	5	4415	10.75
†4 way	20	10	4415F2	14.00
	15	15	4413	10.00
†3 pole	30	30	*4413T3	13.25

Three Position Switches

Switch	Amperes 125V.	Amperes 250V.	Cat. No.	List Each
†1 Pole Single Throw	10	5	4482	$12.00
†2 Pole Double Throw	10	5	4483	12.00
†2 Pole Double Throw	10	5	4484	13.00

Special Housing Switches

*2 Pole	30	30	4235DP	$12.00
*3 Pole	30	30	4235TP	15.00
3 Way	30	30	4235TW	18.00
*4 Pole	30	30	4235FP	21.00

*Also rated 20 amperes, 600 volts. 2 H.P., 230-575 volts.

LIGHT DUTY SWITCHES
Type EFS—Surface Mounting
Single Gang

Available in 2 and 3 gang assemblies. Prices on request.

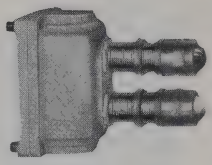
Flush mounting units available. Prices on request.

Outlets — Maximum 1-inch top and bottom. Specify size and location when ordering.

No. 4300T1
With 3 Switches

Switch	Amperes 125V.	Amperes 250V.	Cat. No.	List Each
One Switch Per Gang				
1 pole	10	5	4300S1	$6.60
2 pole	10	10	4300S2	7.20
3 way	10	5	4300S3	7.20
4 way	5	2	4300S4	10.50
Two Like Switches Per Gang				
1 pole	10	5	4300D1	8.30
2 pole	10	10	4300D2	9.35
3 way	10	5	4300D3	9.35
4 way	5	2	4300D4	16.00
Three Like Switches Per Gang				
1 pole	10	5	4300T1	10.00
2 pole	10	10	4300T2	11.50
3 way	10	5	4300T3	11.50
4 way	5	2	4300T4	21.50

R & S PANEL MOUNTING PILOT LIGHTS AND PUSH BUTTON STATIONS


No. 4621P2

†S-6 bulb; 6 watts 120 volts regularly furnished.

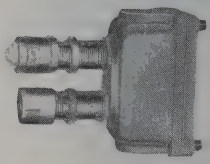
Outlets — Maximum 1-inch top and bottom. Specify size and location when ordering.

No. of Lights	Cat. No.	List Each
	1 Gang	
1	4621P1	$11.00
	2 Gang	
2	4621P2	22.00
	3 Gang	
3	4621P3	33.00
	*Replacement Lens Assembly	
--	ELA	3.50

STANDARD DUTY▲

For Control Circuits of 600 Volts A.C. Maximum

Switches — Maintained contact and special purpose switches can be supplied to order.


No. 3621S2

Push Button Stations

Description	Symbol	Cat. No.	List Each
Single Gang		4621S1	$16.00
Two Gang		4621S2	27.00
Three Gang		4621S3	38.00

Combination Pilot Lights and Push Button Stations†

Two Gang 1-Pilot Light 1-Push Button		4621PS	27.00
Three Gang 2-Pilot Lights 1-Push Button		4621PPS	38.00
Three Gang 1-Pilot Light 2-Push Buttons		4621PSS	38.00

Marking—Specify marking: Stop-Start, On-Off or as required.

*Lens Classification: A—Amber; B—Blue; G—Green; R—Red; W—White., Suffix letter to catalog number when ordering.

†Maximum pilot lamp 230 volts. For voltage above 230, use of a transformer is recommended.

▲Above devices available in 4 Gang, i.e., 2 push button and 2 pilot light or other combinations.

R & S PILOT LIGHTS AND PUSH BUTTON STATIONS

EXPLOSION-PROOF AND DUST-TIGHT

Class I, Groups C and D

TYPE EFS FOR SURFACE MOUNTING

No. 4620C

S-6 bulb; 6 watts. 125 volts regularly furnished.

Outlets — Maximum 1-inch top and bottom. Specify size and location when ordering.

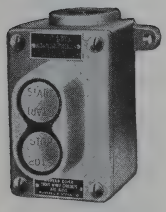
Single Gang

Color Lens	Cat. No.	List Each
†Clear	4620C	$12.00
†Green	4620G	12.00
†Ruby	4620R	12.00
†Amber	4620A	12.00

Net weights: single-gang, 6½ lbs., 2-gang, 12 lbs., 3-gang, 18 lbs.

TYPES FS FOR SURFACE MOUNTING

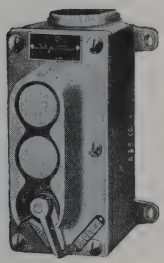
For Control Circuit of 600 Volts A.C. Maximum



No. 4220SS

*Standard Marking	Symbol	Cat. No.	List Each
† Start		4220ST	$10.00
† Stop		4220SP	10.00
† Start Stop		4220SS	13.00
† Fr'd Reverse		4220FR	13.00
† Stop Auto Hand		4220SA	19.00

SPECIAL GANG HOUSINGS



No. 4220SSF

Fr'd Reverse Stop		4220FRS	19.00
Start Stop Fr'd Reverse		4220SSF	34.00

*Special markings must be specified if desired. Stop button can be arranged for padlock to lock open if specified. Buttons with Normally Open and Closed contacts can be furnished in place of Normally Open or Normally Closed type.

†Available in 2 and 3 gang assemblies.

Outlets—Maximum 1-inch top and bottom. Specify size and location of outlets when ordering.

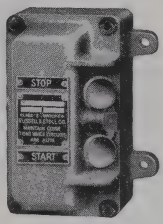
R & S PUSH BUTTON, SELECTOR SWITCH AND PILOT LIGHT STATIONS

EXPLOSION-PROOF AND DUST-TIGHT

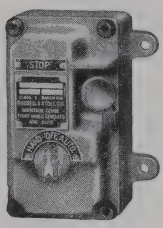
Class I, Groups C and D

For Control Circuits of 10 Amp. 600 Volts A.C. Maximum*

HEAVY DUTY—TYPE H



No. H4220SS



No. H4220SA

No. H4220S2L2

Description of Unit	No. and Type of Contacts	Cat. No.	List Each
Single Push Button	{One—N.O.} {One—N.C.}	H4220SB	$15.00
Double Push Button	{Two—N.O.} {Two—N.C.}	H4220SS	25.00
Single Push Button and Selector Switch	{One—N.O. One—N.C. 3 Position Selector Sw.}	H4220SA	30.00
3—Push Button	{Three—N.O.} {Three—N.C.}	H4220S3	35.00
2—Push Button and Selector Switch	{Two—N.O. Two—N.C. 3 Position Selector Sw.}	H4220SSF	40.00
2—Push Button and 1-Pilot Light	{Two—N.O.} {Two—N.C.}	H4220SSL	40.00
4—Push Button	{Four—N.O.} {Four—N.C.}	H4220S4	40.00
3—Push Button and Selector Switch	{Three—N.O.} {Three—N.C.} {3 Position Selector Sw.}	H4220S3S	45.00
2—Push Button and 2-Pilot Light	{Two—N.O.} {Two—N.C.}	H4200S2L2	45.00

Push button rocker arm can be supplied with Mushroom Head Extension Button at **$1.50** list additional.

Special Contact Push Buttons can be furnished. Prices on application.

Pilot Light—Regularly furnished with 6 watt S6, 120 volt lamp. 230 volt lamp will be furnished if specified. Maximum pilot lamp 230 volts. For voltage above 230 use of a transformer is recommended. Standard lens colors are Ruby, Green, Amber and Clear. Suffix letter R, G, A, or C to catalog number to indicate colors required.

Marking—Stop-Start, On-Off, Hand-Off-Auto. regularly furnished. Other markings will be furnished if specified.

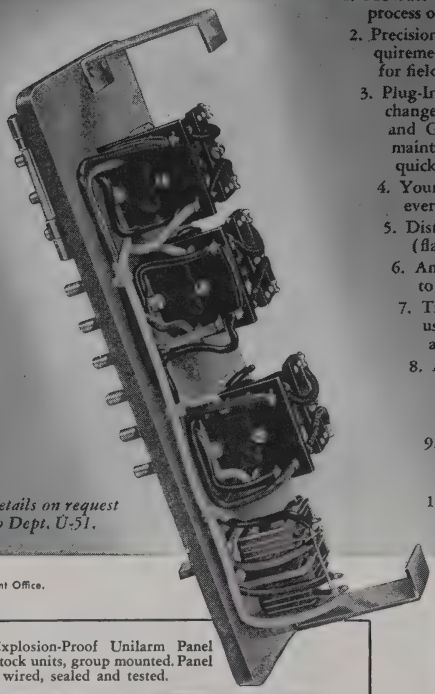
Enclosure—Cast iron, corrosion resisting finish.

Outlets—Maximum 1-inch top and bottom. Specify size and location when ordering.

R & S UNILARM

FACTORY BUILT UNIT ALARM SYSTEM—READY TO INSTALL

Explosion-Proof and Dust-Tight—Class I, Groups C and D



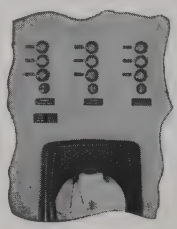
Complete details on request Write to Dept. U-51.

1. Provides unfailing supervision of equipment and process operations.
2. Precision-built to Underwriters' Laboratories requirements. Completely wired and tested . . . ready for field connections.
3. Plug-In Panel (large illustration), fits interchangeably into Explosion-Proof, Vaportight and General Purpose enclosed units. Reduces maintenance to a minimum . . . easily and quickly replaced with a spare unit.
4. Your choice of 100 standard circuits to suit every conceivable application.
5. Distinctive visual signal for each condition (flashing light) insures immediate attention.
6. Any number of Unilarms may be connected to one audible signal.
7. Tried and tested in the field. Thousands in use giving trouble-free protection. Accepted as standard by leading industries.
8. Available as individual unit or in multi-unit Panels. Also time delay types for applications subject to high surge or excessive vibration.
9. Saves space, engineering costs, installation and maintenance over other alarm systems.
10. Acknowledgement-test switch permits periodic testing of each Unilarm circuit.

*Reg. U.S. Patent Office.

D1

Special Explosion-Proof Unilarm Panel showing stock units, group mounted. Panel is factory wired, sealed and tested.



Vaportight Unilarm

General Purpose Unilarm

R&S Unilarm is also available in a complete line of Surface Mounted Types — Explosion-Proof, Vaportight and General Purpose.

UNILARMS FOR PANEL MOUNTING

Description		Standard 2 Light Cat. No.	Standard 2 Light List Price	Standard 3 Light Cat. No.	Standard 3 Light List Price	Three Stage 2 Light Cat. No.	Three Stage 2 Light List Price	Five Stage 3 Light Cat. No.	Five Stage 3 Light List Price	Vital Motor Alarm Cat. No.	Vital Motor Alarm List Price
Complete Unilarm	Explosion-proof	AEP2	$115.00	AEP3	$132.00	AEP23	$132.00	AEP35	$147.00	MAEP24	$147.00
	Vaportight	AVT2	105.00	AVT3	117.00	AVT23	117.00	AVT35	132.00	MAVT24	132.00
	General Purpose	AU2	100.00	AU3	112.00	AU23	112.00	AU35	127.00	MAU24	127.00
Replacement Parts	Plug-in Unit	PU2	60.00	PU3	70.00	PU23	70.00	PU35	85.00	MPU24	120.00
	Lens Assembly —Explosion-proof	ELA	3.50								
	—Vaportight	VLA	3.00								
	—General Purpose	LA	3.00								

Standard lens colors are White (normal), Green (low alarm), Red (high alarm). Specify colors of lenses required. Other colored lenses will be supplied if specified.

Lamp—S6-6 watt, 120 volt bulbs regularly furnished.

Unilarm can be supplied for surface mounting and in factory assembled groups. Also special circuits. Information and prices on request.

R & S ANGLE TYPE RECEPTACLES

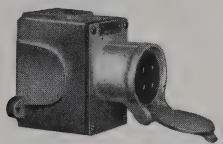
WEATHERTIGHT (TYPE A)

15 to 200 Amperes

250 Volts D.C.—440 Volts A.C.

2-, 3- and 4-Wire—Polarized

45° Angle Type



Straight Type

Box and receptacle housing are heavy castings provided with gaskets and cast hinged spring flap cover. Corrosion resisting finish.

Positive polarization to insure assembly of contact members. Provision is made for grounding to meet Underwriters' requirements. Plug housing is light in weight and convenient to handle.

Straight Type: Catalog numbers shown are for 45° Angle Type Receptacles. For Straight Type, prefix "RA" to catalog number.

Style Wire	Poles	Receptacle Less Plug — Single Gang Cat. No.	Single Gang Price Each	Two Gang Cat. No.	Two Gang Price Each	Plugs Only Cat. No.	Plugs Only Price Each
		15 Amperes					
2	2	3102	$ 7.50	3109	$15.00	3106	$ 5.50
*2	3	3103	8.50	3110	17.00	3107	6.50
3	3	3103W	8.00	3110W	16.00	3107W	6.00
*3	4	3104	9.50	3111	19.00	3108	7.50
4	4	3104W	9.00	3111W	18.00	3108W	7.00
		30 Amperes					
2	2	3112	8.50	3119	17.00	3116	6.50
*2	3	3113	9.50	3120	19.00	3117	7.50
3	3	3113W	9.00	3120W	18.00	3117W	7.00
*3	4	3114	10.50	3121	21.00	3118	8.50
4	4	3114W	10.00	3121W	20.00	3118W	8.00
		60 Amperes					
2	2	3122	12.50	3129	25.00	3126	8.00
*2	3	3123	14.50	3130	29.00	3127	10.00
3	3	3123W	13.50	3130W	27.00	3127W	9.00
*3	4	3124	16.50	3131	33.00	3128	12.00
4	4	3124W	15.50	3131W	31.00	3128W	11.00
		100 Amperes					
2	2	3132	23.50	3139	47.00	3136	16.00
*2	3	3133	26.00	3140	52.00	3137	18.50
3	3	3133W	24.50	3140W	49.00	3137W	17.00
*3	4	3134	28.50	3141	57.00	3138	21.00
4	4	3134W	27.00	3141W	54.00	3138W	19.50
		200 Amperes					
2	2	3142	49.00	3149	98.00	3146	27.00
*2	3	3143	53.00	3150	106.00	3147	31.00
3	3	3143W	51.00	3150W	102.00	3147W	29.00
*3	4	3144	57.00	3151	114.00	3148	35.00
4	4	3144W	55.00	3151W	110.00	3148W	33.00

*Equipment grounded through separate pole; all others have equipment ground through shell only.

Maximum Outlets—15 amp. 1-inch; 30-60 amp. 1½-inch; 100 amp. 2½-inch; 200 amp. 3-inch. Specify size and location when ordering.

Also available for 600 volts A.C.

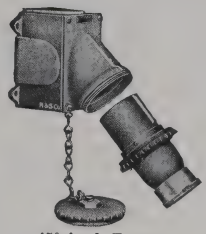
R & S ANGLE TYPE RECEPTACLES

WATER-TIGHT (TYPE B)

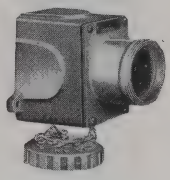
15 to 200 Amperes

250 Volts D.C.—440 Volts A.C.

2-, 3- and 4-Wire—Polarized



45° Angle Type



Straight Type

Box and receptacle housing are heavy castings provided with a screw thread to take gasketed brass cap and plug collar. Corrosion resisting finish.

Positive polarization to insure assembly of contact members. Provision for grounding to meet Underwriters' requirements. External rib to provide visual indication for plug insertion. Large conduit bosses and ample space for wiring.

Plug housing is light in weight and convenient to handle. Provided with Strain Relief Outlet.

Straight Type: Catalog numbers shown are for 45° Angle Type Receptacles. For Straight Type, prefix "RA" to catalog number.

Style Wire	Poles	Receptacle Less Plug — Single Gang Cat. No.	Single Gang Price Each	Two Gang Cat. No.	Two Gang Price Each	Plugs Only Cat. No.	Plugs Only Price Each
		15 Amperes					
*2	2	3302	$ 8.00	3309	$16.00	3306	$ 6.00
2	3	3303	9.00	3310	18.00	3307	7.00
3	4	3304	10.00	3311	20.11	3308	8.00
		30 Amperes					
*2	2	3312	9.00	3319	18.00	3316	7.00
2	3	3313	10.00	3320	20.00	3317	8.00
3	4	3314	11.00	3321	22.00	3318	9.00
		60 Amperes					
*2	2	3322	13.00	3329	26.00	3326	8.50
2	3	3323	15.00	3330	30.00	3327	10.50
3	4	3324	17.00	3331	34.00	3328	12.50
		100 Amperes					
*2	2	3332	24.50	3339	49.00	3336	17.00
2	3	3333	27.00	3340	54.00	3337	19.50
3	4	3334	29.50	3341	59.00	3338	22.00
		200 Amperes					
*2	2	3342	51.00	3349	102.00	3346	29.00
2	3	3343	55.00	3350	110.00	3347	33.00
3	4	3344	59.00	3351	118.00	3348	37.00

*Fittings marked (*) have no provision for equipment grounding. All others have equipment ground through separate pole.

Maximum Outlets—15 amp. 1-inch; 30-60 amp. 1½-inch; 100 amp. 2½-inch; 200 amp. 3-inch. Specify size and location when ordering.

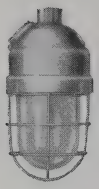
Also available for 600 volts A.C.

R & S LIGHTING FIXTURES

EXPLOSION-PROOF AND DUST-TIGHT

Class I, Groups C and D

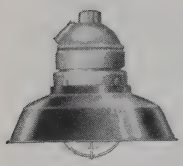
PENDANT TYPES



†With Guard—Without Reflector▲

Lamp Watts	Cat. No.	List Each
100/150	4501	$18.00
200	4502	26.00
*300	4503	27.00
•300/500	4539	68.00

▲Add suffix "S" to catalog number when required with Shallow Dome Reflector. Prices on request.

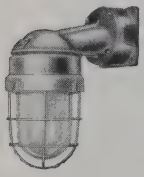


†With Guard and Standard Dome Reflector

Lamp Watts	Cat. No.	List Each
100	4501R	$20.50
150	4507	21.00
200	4508	29.50
*300	4509	31.00
•300/500	4539R	74.00

†With Guard and Angle Reflector

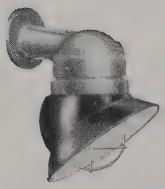
Lamp Watts	Cat. No.	List Each
100	4501AR	$20.75
150	4513	21.25
200	4514	30.00
*300	4515	31.00



BRACKET TYPES

With Guard—Without Reflector

Lamp Watts	Cat. No.	List Each
100/150	4541	$28.00
200	4542	36.00
*300	4543	37.00



With Guard and Angle Reflector

Lamp Watts	Cat. No.	List Each
100	4541AR	$30.75
150	4547	31.25
200	4548	40.00
*300	4549	41.00

R & S LIGHTING FIXTURES

EXPLOSION-PROOF AND DUST-TIGHT

Class I, Groups C and D

CEILING TYPES

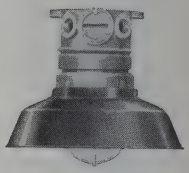
†With Guard—Without Reflector▲

Lamp Watts	Cat. No.	List Each
100/150	4521	$22.00
200	4522	30.00
*300	4523	31.00
•300/500	4540	72.00

▲Add suffix "S" to catalog number when required with Shallow Dome Reflector. Price on request.

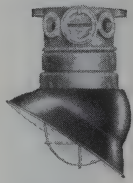
†With Guard and Standard Dome Reflector

Lamp Watts	Cat. No.	List Each
100	4521R	$24.50
150	4527	25.00
200	4528	33.50
*300	4539	35.00
•300/500	4540R	78.00



†With Guard and Angle Reflector

Lamp Watts	Cat. No.	List Each
100	4521AR	$24.50
150	4533	25.25
200	4534	34.00
*300	4535	35.00



PORTABLE HAND LAMPS

Standard Hook Type

Description	Cat. No.	List Each
Portable, less shade	4585	$30.00
Half Shade only	4586	2.00

Bail Handle Type

Description	Cat. No.	List Each
Portable, less shade	4587	$30.00
Half Shade only	4586	2.00

†When required without Guard, Deduct:

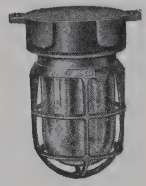
Fixture Watts	100/150	200/300	500
List Each	$0.85	$1.00	$4.00

*Accommodates 300 watt medium screw base lamp only.

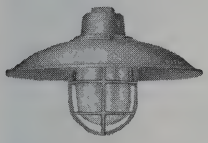
•Accommodates 300/500 watt mogul screw base lamp.

R & S VAPORTIGHT FIXTURES

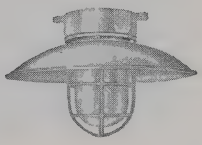
Pendant Types					Ceiling Types			
IRON		BRASS		Max.	IRON		BRASS	
Cat. No.	Price Each	Cat. No.	Price Each	Lamp Watts	Cat. No.	Price Each	Cat. No.	Price Each
†With Guard—Without Reflector								
6345	$4.35	5000	$5.00	100	6321	$4.35	5045	$5.00
6324	6.50	5001	8.50	200	6334	6.50	5047	8.50
6328	12.00	1413	15.00	•300	6338	12.00	1414	15.00

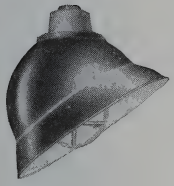


IRON		BRASS		Max.	IRON		BRASS	
Cat. No.	Price Each	Cat. No.	Price Each	Lamp Watts	Cat. No.	Price Each	Cat. No.	Price Each
†With Guard and Standard Dome Reflector								
6361	8.35	6202	9.00	100	6312	8.35	6212	9.00
6304	10.75	6204	13.50	150	6314	10.75	6214	13.50
6306	11.75	6206	14.50	200	6316	11.75	6216	14.50
6308	19.00	6208	23.00	•300	6318	19.00	6218	23.00

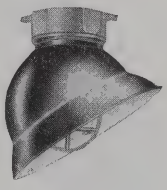


IRON		BRASS		Max.	IRON		BRASS	
Cat. No.	Price Each	Cat. No.	Price Each	Lamp Watts	Cat. No.	Price Each	Cat. No.	Price Each
†With Guard and Shallow Dome Reflector								
6369	8.35	6252	9.00	100	6330	8.35	6272	9.00
6364	11.25	6264	14.00	200	6384	11.25	6284	14.00
6366	19.00	6266	23.00	•300	6386	19.00	6286	23.00





IRON		BRASS		Max.	IRON		BRASS	
Cat. No.	Price Each	Cat. No.	Price Each	Lamp Watts	Cat. No.	Price Each	Cat. No.	Price Each
†With Guard and Angle Reflector								
6388	8.35	6231	9.00	100	6343	8.35	6241	9.00
6233	10.75	6235	13.50	200	6243	10.75	6245	13.50
6239	.....	6237	.....	•300	6249	19.00	6247	22.00



†When Required Without Guard, Deduct:			
Fixture Watts	100/150	200/300	500
List Each	$0.85	$1.00	$4.00

GENERAL NOTES

•Mogul Base.

GLOBES: Clear globes regularly furnished. Colored globes available at slight additional cost.

REFLECTORS: Steel, Porcelain enamel green outside, white inside.

OUTLETS: (Pendant) ½ or ¾ inch. Specify size when ordering.
(Ceiling) Maximum ¾ inch. Specify size and location when ordering. Deep boxes can be furnished to allow for larger outlets at slight additional cost.

All fixtures regularly supplied with cast iron junction box No. 333. No. 332 cast brass box will be supplied at **$1.20** list additional.

R & S VAPORTIGHT FIXTURES
WITH SCREW GLOBES
CEILING TYPE — CAST BRASS

No. 4932

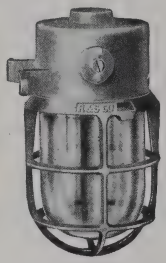
Complete with brass guard, with or without switch as listed.

Cat. No.	Max. Lamp Watts	Price Each
Without Switch		
4932	60	**$6.50**
4942	100	**6.50**
4952	200	**11.00**
With Switch		
4937	60	**9.50**
4947	100	**9.50**

BRACKET TYPE—CAST BRASS

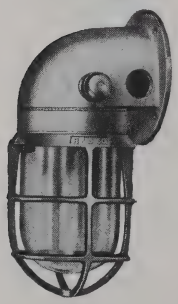
Furnished complete with brass guard, with or without switch, as listed.

Cat. No.	Max. Lamp Watts	Price Each
Without Switch		
4933	60	**$7.00**
5005	100	**7.00**
5006	200	**11.50**
With Switch		
230	60	**10.00**
330	100	**10.00**



No. 230

WALL BRACKET TYPE—CAST BRASS



No. 4967

Furnished complete with brass guard, with or without switch, as listed.

Cat. No.	Max. Lamp Watts	Price Each
Without Switch		
4962	60	**$8.90**
4972	100	**8.90**
With Switch		
4967	60	**11.90**
4977	100	**11.90**

If above fixtures are required less guards, deduct **$1.00** for 60- and 100-watt and **$1.75** for 200-watt size fixtures.

Globes: Clear globes regularly furnished. Colored globes, opal, ruby, blue, green, amber, are available at slight additional cost.

Outlets, ¾-inch maximum. Conduit outlet in top, sides and back only. Specify size and location when ordering.

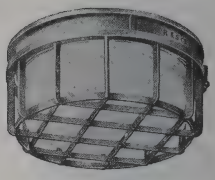
Can also be used with Russell & Stoll 4-inch Junction Boxes for concealed conduit systems and bottom outlets.

R & S GUARDED TYPE CEILING FIXTURES
CAST BRASS

Sizes range from 6 to 12 inches in diameter and accommodate lamps from 25 to 300 watts per fixture. Constructed of cast brass throughout and finished black oxidized. Other finishes extra. Globes are regularly supplied inside frosted. Clear or opal globes on request.

SCREW BOWL AND STRAIGHT SIDE TYPES

No. 1370A
For Side Outlet



No. 1470FG
For Top Outlet

Cat. No.	No. and Size of Lamps	Replacement Globe No.	Replacement Globe Dia. In.	Overall Dimens. Dia. In.	Overall Dimens. Dpth. In.	Outlet *Location	Price Each
Vaportight Bowl Type							
1471A	1–25	2451	6	8	4¼	Top	**$25.00**
1371A	1–25	2451	6	8	5¼	Side	**30.00**
1470A	2–100	2454	8	10	5	Top	**35.00**
1370A	2–100	2454	8	10	6	Side	**40.00**
Vaportight Straight Side Bowl Type							
1470FG	2–60	2465	8	10	5	Top	**35.00**
1370FG	2–60	2465	8	10	6	Side	**40.00**

FLARED LIP GLOBE TYPES

No. 552
Flared Lip Globe Type

No. 2773
For Top Outlet
Non-Watertight

Cat. No.	No. and Size of Lamps	Replacement Globe No.	Replacement Globe Dia. In.	Overall Dimens. Dia. In.	Overall Dimens. Dpth. In.	Outlet *Location	Price Each
Watertight							
552	4–100	388	12	12½	9½	‡	★
Non-Watertight Type							
2773	4–100	388	12	15	8¾	■	★

*Price on application.

*Top outlet fixtures are designed for mounting to No. 333 Junction box set flush in ceiling. Fixtures can also be arranged for mounting to standard steel outlet boxes with stud, if specified. Boxes are not included.

■Fixture base is drilled for mounting direct to ceiling. Flush outlet box should be provided in ceiling for wiring of fixture.

‡**Outlets:** Side outlet fixtures can be tapped 4 way for ½- or ¾-inch conduit. Specify size and location when ordering.

raceways and wiring systems

UNDERFLOOR RACEWAY

Excerpts from National Electrical Code (1951 Edition)

ARTICLE 354

3541. Scope. Installations of underfloor raceways shall comply with the provisions of sections 3001 to 3020 inclusive and in addition shall comply with the provisions of following sections 3542 to 3556 inclusive.

3542. Use. Underfloor raceways may be used when installed beneath the surface of concrete or other flooring material, or in office occupancies, when laid flush with the concrete floor and covered with linoleum or equivalent floor covering. Open bottom type of raceways may be used in concrete fill between the rough and the finished floor only. Underfloor raceways shall not be used (1) if subject to corrosive vapors; (2) in any hazardous locations; (3) in commercial garages; nor (4) in storage-battery rooms.

3543. Covering. Raceway covering shall conform to the following:

a. Raceways Not Over 4 Inches Wide. Half-round raceways not over 4 inches in width, and, except as permitted in paragraph (c) of this section, flat-top raceways not over 4 inches in width, shall have not less than ¾ inches of concrete or wood above the raceway.

b. Raceways Over 4 Inches in Width or With Less Than ½ Inch Separation. Flat-top raceways over 4 inches in width or placed less than ½ inch apart shall be covered with concrete to a depth of not less than 1½ inches.

c. Raceways Flush With Concrete. Approved metal flat-top raceways if not over 4 inches in width may, in office occupancies, be laid flush with the concrete floor surface if covered with substantial linoleum not less than ⅛ inch in thickness or with equivalent floor covering. When more than one and not more than three single raceways are each installed flush with the concrete, they must be (1) contiguous with each other and joined to form a rigid assembly, or (2) spaced not less than ½ inch apart.

3544. Size of Conductors. No conductor larger than that for which the raceway is approved shall be installed in underfloor raceways and the largest size conductor allowed shall be No. 0 Awg.

3545. Number of Conductors in Raceway. The combined cross-sectional area of all conductors shall not exceed 40 per cent of the interior area of the raceway; except that if the raceway contains only armored cable or non-metallic sheathed cable, these requirements shall not apply.

3546. Splices and Taps. Splices or taps shall be made only in junction boxes.

3547. Discontinued Outlets. When an outlet is discontinued, the conductors supplying the outlet shall be removed from the raceway.

3548. Open-Bottom Raceway—How Laid. Open-bottom raceway shall be laid on a smooth pad of concrete extending at least 1 inch on each side of the raceway and at least 1 inch thick, except that this thickness may be reduced to ¼-inch where the raceway crosses a run of conduit, and except that in lieu of a concrete pad, fittings which will protect the conductors from contact with piping, structural steel and other obstructions may be used. Raceways shall be mechanically secured to the concrete pad.

3549. Laid in Straight Lines. Underfloor raceways shall be laid so that a straight line from the center of one junction box to the center of the next junction box will coincide with the center line of the raceway system. Raceways shall be made mechanically secure to prevent disturbing this alignment during construction.

3550. Markers at Ends. At every end of line of raceway, a fitting shall be installed extending through the floor to mark the line of the duct. Where a duct line is interrupted by another duct line, but continues in a straight line beyond, and has junction boxes or outlets on either side of the crossing line, no markers are necessary at the interrupting point.

3551. Dead Ends. Dead ends of raceways shall be closed.

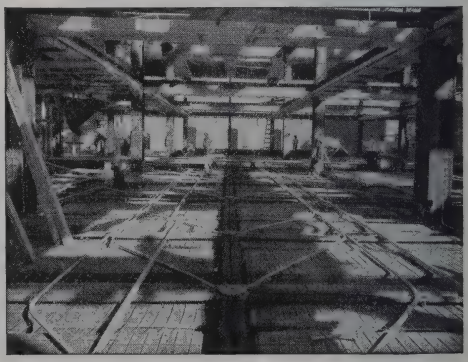
3552. Low Points. Where practicable, raceways and their fittings shall be so arranged as to avoid low points that may form traps of water.

3553. Special Fittings at Angles. Where raceways are run at other than right angles, special fittings shall be provided, if in the judgment of the authority enforcing this code, these are necessary.

3554. Junction Boxes. Junction boxes shall be leveled to the floor grade and sealed against the entrance of water. Junction boxes used with metal raceways shall be metal and shall be electrically continuous with the raceways.

3555. Inserts. Inserts shall be leveled to the floor grade and sealed against the entrance of water. Inserts used with metal raceways shall be metal and shall be electrically continuous with the raceway. Inserts set in or on fiber raceways before the floor is laid shall be mechanically secured to the raceway. Inserts set in fiber raceways after the floor is laid shall be screwed into the raceway. In cutting through the raceway wall and setting inserts, chips and other dirt shall not be allowed to fall into the raceway, and tools shall be used which are so designed as to prevent the tool from entering the raceway and injuring conductors that may be in place.

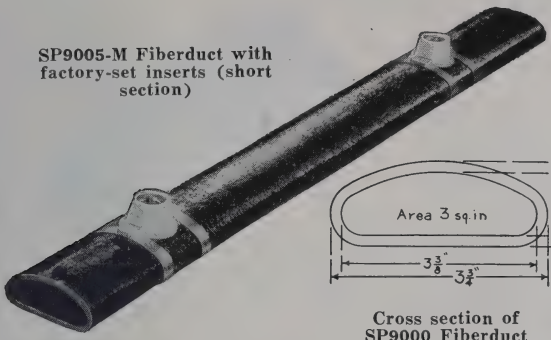
3556. Connections to Cabinets and Wall Outlets. Connections between raceways and distribution centers and wall outlets shall be made by means of rigid or flexible metal conduit or by means of fittings specially approved for the purpose.

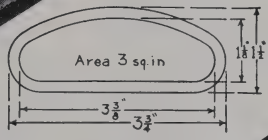


Double duct system illustrating conduit feeder

GENERAL ELECTRIC FIBERDUCT

SP9005-M Fiberduct with factory-set inserts (short section)





Cross section of SP9000 Fiberduct

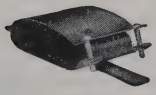
SP9000 Fiberduct (short section)

Height of insert must be specified. The height of insert is determined by the thickness of concrete above the duct. Tops of inserts should not be down more than ¼ in. below finish cement. Inserts are available in following heights: ¾, 1, 1¼, 1½, 2, and 2½ inches.

Cat. No.	Description	Diam. of Inserts, In.	Length of Duct in Ft	Wt per 100 Ft
SP9000	Fiberduct. No inserts	----	5	100
SP9005-M	Fiberduct with factory-set magnetic pin cap inserts on 24-in. centers	1.3	5	125
SP9005-S	Fiberduct with factory-set steel cap inserts on 24-in. centers	1.3	5	125
SP9005-SL	Fiberduct with factory-set steel cap inserts on 24-in. centers	1.9	5	125

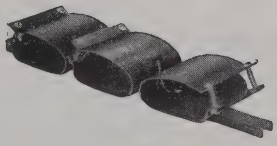
COUPLINGS

SP9009



SP9010

SP9015



SP9018

Cat. No.	Description	Wt in Lb per 100
SP9009	Entrance clamp. Holds duct securely in junction box or other fittings	15
SP9010	Single coupling for a run on single duct. Order two leveling screws separately	85
SP9015	Double coupling for a run of double duct. Order two leveling screws separately	100
SP9018	Triple coupling for a run of triple duct. Order two leveling screws separately	240

SUPPORTS FOR DUCT

SP9012

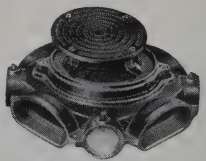
SP9014

These duct supports are made of channel iron, and are used where extra supports on 2½-foot centers are specified. Unless otherwise specified, the standard support on 5-foot centers, provided by the regular duct couplings, is usually considered sufficient.

Cat. No.	Description	Wt in Lb per 100
SP9011	Single support for a run of single duct. Order two leveling screws separately	40
SP9012	Double support for a run of double duct. Order two leveling screws separately	75
SP9014	Triple support for a run of triple duct. Order two leveling screws separately	100

GENERAL ELECTRIC FIBERDUCT
SINGLE-DUCT JUNCTION BOXES

SP9100
Single-duct junction box

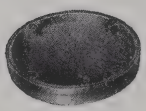


SP9100-F
Single-duct junction box

Cat. No.	Description	Wt in Lb per 100
SP9100	Single-duct junction box. Single compartment. Temporary steel cover furnished. Order permanent cover assembly and elevating gasket separately to suit desired floor finish. Also order 4 leveling screws. Specify depth of concrete over duct	800
SP9100-F	Single-duct junction box. Single compartment. Furnished with permanent metal cover and gasket. Order SP9110-F cover for nonceramic floor finishes. Order 4 leveling screws separately. Specify depth of concrete over duct	950
SP9104	1/16-in. elevating gasket. Use with SP9100 box to bring cover flush with floor covering. For 3/16-in. floor covering	6
SP9106	1/8-in. elevating gasket. Use with SP9100 box to bring cover flush with floor covering. For 1/4-in. floor covering	8
SP9108	1/4-in. elevating gasket. Use with SP9100 box to bring cover flush with floor covering	12

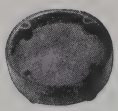
BOX COVER ASSEMBLIES

SP9110



SP9120

SP9125



SP9128

SP9110-F

For Single-duct Junction Boxes

SP9110	Linoleum cover assembly. For SP9100 junction box. Top is so recessed that cover assembly finishes flush with floor-covering. Screws are countersunk	125
SP9110-F	Floor-covering adapter. For SP9100-F junction box. For linoleum or similar finish	36
SP9120	Concrete cover assembly. For SP9100 junction box. Screws are countersunk	125
SP9125	Flush cover assembly. For SP9100 junction box. For all types of floor finishes except terrazzo. Screws are countersunk	175
SP9128	Terrazzo cover assembly. For SP9100 junction box. Cover recessed 7/8 in. Has countersunk screws	250

For Double-duct Junction Boxes

SP9160	Linoleum cover assembly. For SP9130 and SP9150 junction boxes. Top is so recessed that cover assembly finishes flush with floor covering	470
SP9160-F	Floor-covering adapter. For SP9130-F and SP9150-F junction boxes. For linoleum or similar finish	44
SP9170	Concrete cover assembly. For SP9130 and SP9150 junction boxes. Screws are countersunk	470
SP9175	Flush cover assembly. For SP9130 and SP9150 junction boxes. For all types of floor finishes except terrazzo. Screws are countersunk	600
SP9178	Terrazzo cover assembly. For SP9130 and SP9150 junction boxes. Cover recessed 7/8-inch. Has countersunk screws	550

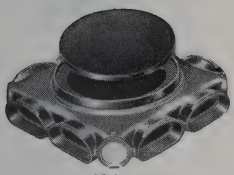
For Triple-duct Junction Boxes

SP9185	Linoleum cover assembly. For SP9179 and SP9180 junction boxes. Top is recessed to bring linoleum flush with finished floor	500
SP9185-F	Floor-covering adapter. For SP9179-F and SP9180-F junction boxes. For linoleum or similar finish. Screws are countersunk	50
SP9186	Concrete cover assembly. For SP9179 and SP9180 junction boxes. Screws are countersunk	550
SP9187	Flush cover assembly. For SP9179 and SP9180 junction boxes. For all types floor finishes except terrazzo	650
SP9188	Terrazzo cover assembly. For SP9179 and SP9180 junction boxes. Cover recessed 7/8-inch. Has countersunk screws	675

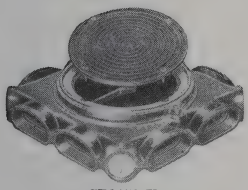
Box cover assemblies and floor-covering adapters are made of brass.

GENERAL ELECTRIC FIBERDUCT

DOUBLE-DUCT JUNCTION BOXES



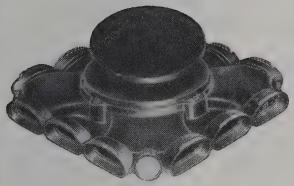
SP9130
Double-duct junction box
single compartment



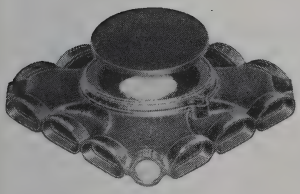
SP9150-F
Double-duct junction box
double compartment

Cat. No.	Description	Wt in Lb per 100
SP9130	Double-duct junction box. Single compartment. Temporary cover furnished. Order permanent cover assembly and elevating gasket separately to suit desired floor finish. Also order four leveling screws. Specify depth of concrete over duct	2200
SP9130-F	Double-duct junction box. Single compartment. Furnished with permanent metal cover and gasket. Order SP9160-F covers where floor finishes are nonceramic. Order four leveling screws separately. Specify depth of concrete over duct	2500
SP9150	Double-duct junction box. Double compartment. Temporary cover furnished. Order permanent cover assembly and elevating gasket separately to suit desired floor finish. Also order four leveling screws. Specify depth of concrete over duct	2500
SP9150-F	Double-duct junction box. Double compartment. Furnished with permanent metal cover and gasket. Order SP9160-F covers where floor finishes are nonceramic. Order four leveling screws separately. Specify depth of concrete over duct	2700
SP9154	1/16-in. elevating gasket. Use with SP9130 and SP9150 boxes to bring cover flush with floor covering. For 3/16-in. floor covering	10
SP9156	1/8-in. elevating gasket. Use with SP9130 and SP9150 boxes to bring cover flush with floor covering. For 1/4-in. floor covering	15
SP9158	1/4-in. elevating gasket. Use with SP9130 and SP9150 boxes to bring cover flush with floor covering	25

TRIPLE-DUCT JUNCTION BOXES



SP9179
Triple-duct junction box
single compartment



SP9180
Triple-duct junction box
double compartment

Cat. No.	Description	Wt in Lb per 100
SP9179	Triple-duct junction box. Single compartment. Temporary cover furnished. Order permanent cover assembly and elevating gasket separately to suit desired floor finish. Also order four leveling screws. Specify depth of concrete over duct	4500
SP7179-F	Triple-duct junction box. Single compartment. Furnished with permanent metal cover and gasket. Order SP9185-F covers where floor finishes are nonceramic. Also order four leveling screws separately. Specify depth of concrete over duct	5400
SP9180	Triple-duct junction box. Double compartment. Temporary cover furnished. Order permanent cover assembly and elevating gasket separately to suit desired floor finish. Also order four leveling screws. Specify depth of concrete over duct	4700
SP9180-F	Triple-duct junction box. Double compartment. Furnished with permanent metal cover and gasket. Order SP9185-F covers where floor finishes are nonceramic. Order four leveling screws separately. Specify depth of concrete over duct	5200
SP9181	1/16-in. elevating gasket. Use with SP9179 and SP9180 boxes to bring cover flush with floor covering. For 3/16-in. floor covering	12
SP9182	1/8-in. elevating gasket. Use with SP9179 and SP9180 boxes to bring cover flush with floor covering. For 1/4-in. floor covering	20
SP9184	1/4-in. elevating gasket. Use with SP9179 and SP9180 boxes to bring cover flush with floor covering	30

GENERAL ELECTRIC FIBERDUCT

CROSSUNDERS FOR DUCT

SP9045
Crossunder

Crossunder fittings are made of cast metal, and are used to change the elevation of the run of duct when is it necessary to underpass another run of duct, conduit, or other obstruction.

SP9043
Crossunder

Cat. No.	Description	Wt in Lb per 100
SP9043	Crossunder fitting. Used to change elevation of the run of duct. Both ends fit duct. Furnished with one marker screw which can be adjusted to level of finished floor. Order two leveling screws and two SP9009 clamps separately for each fitting	325
SP9045	Crossunder fitting. Used at a junction box to lower a run of duct. One end fits junction box, the other end takes the end of duct. No leveling screws or clamps needed	300

ELBOWS FOR DUCT

SP9033
Wall elbow extension

SP9030
Adjustable wall elbow

SP9020
90-deg. floor elbow

SP9025
45-deg. floor elbow

Elbows for duct are made of cast metal, and all have well-round interiors with gradual bend for easy wire pulling. Floor elbows are furnished with marker screws which can be adjusted to the level of the finished floor. Each floor elbow has three tapped ears for leveling screws. Order three leveling screws and two SP9009 clamps separately for each floor elbow. Floor elbows are available for either 90-degree or 45-degree turns.

Cat. No.	Description	Wt in Lb per 100
SP9020	90-degree floor elbow. Furnished with two marker screws. Order three leveling screws and two SP9009 clamps for each elbow	800
SP9025	45-degree floor elbow. Furnished with two marker screws. Order three leveling screws and two SP9009 clamps for each elbow	450
SP9030	Adjustable wall elbow. For connecting duct system to telephone cabinets. Max. height 15 in.; min. height 10 in. Flange at top has drilled holes for attachment to cabinet. Order one SP9009 clamp for each elbow	950
SP9033	Wall elbow extension. Used with SP9030 to reach high-set telephone cabinets. Over-all length 5 in. Several extensions can be coupled together	350

SP9087 SP9086 SP9085

LEVELING SCREWS

For All Tapped Devices

Leveling screws are required for all tapped devices, including couplings, floor elbows, junction boxes, flush outlets, and duct end enclosures. These screws are threaded for the full length, and are slotted at one end and pointed at the other end. Screws are furnished in sizes listed.

Cat. No.	Description	Wt in Lb per 100
SP9085	Leveling screw—2½ inches long. Cadmium plated	5
SP9086	Leveling screw—4 inches long. Cadmium plated	7
SP9087	Leveling screw—5½ inches long. Cadmium plated	9

GENERAL ELECTRIC FIBERDUCT

DUCT END MARKERS AND DUCT END CLOSURES

SP9055
Low-tension duct marker

SP9060
Duct and closure with marker and conduit adapter

SP9061
Duct end closure with insert and conduit adapter

High- and low-tension duct markers are used whenever duct runs under a partition. These markers snap into the duct without cutting into it, and have telescopic screws which can be adjusted to come flush with the finished floor. The low-tension marker is identified by a brass screw, the high tension by a nickel-silver screw.

Duct end closures, either the SP9060 or SP9061 type are required wherever a line of duct terminates. Double runs of duct require two end closures, triple runs, three end closures. Both of the end closures have conduit adapters which can be used to run conduit from end of duct for feeds, or to pick up outlets in end walls.

Cat. No	Description	Wt in Lb per 100
SP9055	Low-tension duct marker. For marking duct that passes under partition. Telescopic brass-screw marker. Specify depth of concrete over duct	15
SP9056	High-tension duct marker. For marking duct that passes under partition. Telescopic nickel-silver screw marker. Specify depth of concrete over duct	15
SP9060	Duct end closure with marker and conduit adapter. Used to mark termination of line of duct and to connect conduit to duct. One end takes duct, the other end takes 1¼-inch conduit. Tapped holes for leveling screws. Furnished with brass cap for conduit entrance and clamp for securing to duct. Order two leveling screws separately. Specify depth of concrete over duct	160
SP9061	Duct end closure with 1.3 diameter insert (steel cap or magnetic-pin cap) and conduit adapter. Used at termination of duct and to connect conduit to duct. One end takes duct, other end takes 1¼-inch conduit. Tapped holes for leveling screws. Furnished with brass cap for conduit entrance, and clamp for securing to duct. Order two leveling screws separately. Specify depth of concrete over duct	150

BOX ENTRANCE CLOSURE PLATES AND CONDUIT ADAPTERS, REDUCERS AND ENLARGERS

SP9190
Box entrance closure plate

SP9194
Bushed reducer

SP9191
Box entrance conduit adapter

SP9190 box entrance closure plate fits into the duct opening of all junction boxes, and is used to close any unused duct openings in these boxes. Has two ¾-inch knockouts.

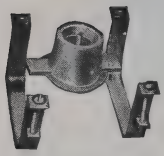
SP9191 box entrance conduit adapter also fits the duct opening of all junction boxes, and has two bushed holes which are used to adapt the duct opening in the box to 1¼-inch conduit. By means of the standard reducers or enlarger, this fitting can be used for ½-inch, ¾-inch, 1-inch and 1½-inch conduit. SP9191 is furnished with clamp for securing the adapter to the box duct entrance, and with a brass cap for closing unused bushed conduit opening.

Bushed reducers and an enlarger are available to convert the bushed conduit openings on junction boxes, duct end closures, and box entrance closures from 1¼-inch conduit to various other sizes as shown in listing.

Cat. No.	Description	Wt in Lb per 100
SP9190	Box entrance closure plate. For use with any junction box to close unused box duct entrances. Fits inside the box duct entrance. Has two ¾-inch knockouts	20
SP9191	Box entrance conduit adapter. For use with any junction box to convert box duct entrance to take two 1¼-inch conduits. For other conduit sizes, use standard enlarger or reducers. Furnished with clamp to secure adapter to box entrance, and with one brass cap to close unused bushed conduit opening	150
SP9192	Bushed reducer. For converting 1¼-inch conduit hole to ½ inch	20
SP9193	Bushed reducer. For converting 1¼-inch conduit hole to ¾ inch	15
SP9194	Bushed reducer. For converting 1¼-inch conduit hole to 1 inch	10
SP9196	Bushed enlarger. For converting 1¼-inch conduit hole to 1½ inch	35

GENERAL ELECTRIC FIBERDUCT

FIELD-SET INSERTS AND INSERT EXTENSIONS



SP9295-M

SP9297-S

SP9294

SP9245

Cat. No.	Description	Height in In.	Diam. in In.	Wt in Lb per 100
	Magnetic Pin Cap Inserts			
SP9295-M3	Field-set insert. Has brass cap with magnetic pin. Locate with SP9439 compass finder.	¾	1.3	35
SP9295-M4		1	1.3	37
SP9295-M5		1¼	1.3	46
SP9295-M6		1½	1.3	60
SP9295-M8		2	1.3	74
SP9295-M10		2½	1.3	83
	Steel-cap Inserts			
SP9295-S3	Field-set insert. Has steel cap which can be located with SP9435 meter finder.	¾	1.3	35
SP9295-S4		1	1.3	37
SP9295-S5		1¼	1.3	46
SP9295-S6		1½	1.3	60
SP9295-S8		2	1.3	74
SP9295-S10		2½	1.3	83
	Steel-cap Inserts			
SP9297-S3	Field-set insert. Has steel cap which can be located with SP3435 meter finder.	¾	1.9	35
SP9297-S4		1	1.9	37
SP9297-S5		1¼	1.9	46
SP9297-S6		1½	1.9	60
SP9297-S8		2	1.9	74
SP9297-S10		2½	1.9	83
	Lateral Insert			
SP9294	Lateral conduit insert. For lateral extension with ¾-in. conduit. Takes SP9389 abandoning assembly	------	1.9	100
	Insert Extensions			
SP9245	Insert extension. For extending inserts which are between ¾ in. and 1½ in. below top of floor covering	------	1.3	25
SP9246	Insert extension. For extending inserts which are between 1½ in. and 2¼ in. below top of floor covering	------	1.3	30
SP9247	Insert extension. For extending inserts which are between 2¼ in. and 3 in. below top of floor covering	------	1.3	40

AFTER-SET INSERTS

After-set inserts are made of cast-iron, and are installed after the concrete has been poured and the location of the outlets have been determined. These inserts can also be used on preset duct, where additional inserts are needed.

Height of insert to be ordered is determined by the depth of the concrete over the duct. The tops of the inserts should not be down more than ¼ inch below the finish cement. Where concrete is 1½ inches over the top of the duct, either a 1¼ inch high or 1½ inch high insert should be ordered.

SP9255-4

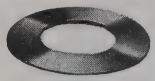
SP9290

Cat. No.	Description	Height in In.	Diam. in In.	Nominal Thread Size in In.	Wt in Lb Per 100
SP9255-3	After-set insert	¾	1.3	1	40
SP9255-4	After-set insert	1	1.3	1	45
SP9255-5	After-set insert	1¼	1.3	1	60
SP9255-6	After-set insert	1½	1.3	1	68
SP9255-7	After-set insert	1¾	1.3	1	78
SP9255-8	After-set insert	2	1.3	1	90
SP9255-9	After-set insert	2¼	1.3	1	98
SP9255-10	After-set insert	2½	1.3	1	110
SP9290	After-set insert. For large cables. Height is adjustable from ¾ to 1¼ inches	------	1.9	1½	150

GENERAL ELECTRIC FIBERDUCT
FLANGE AND ABANDONING PLUGS

SP9303

SP9310

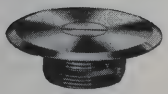

SP9308

SP9312

SP9381

SP9315

SP9388


SP93899

Cat. No.	Description	Diam of Flange in In.	Nominal Thread Size in In.	Wt in Lb per 100
SP9303	Insert reducer. Reduces 1.9 in. diam inserts to 1.3 in.	-----	1½	3
SP9308	Beveled flange. For use with SP9322 cable riser	3½	1½	31
SP9310	Beveled flange. For use with 1.3 in. diam inserts and SP9324 and SP9325 telephone risers. Flange suitable for any type of flooring	3½	1	50
SP9312	Beveled flange. For use with SP9317 cable riser. Suitable for any type flooring	3½	1	30
SP9315	Beveled flange. For use with 1.3 in. diam inserts and SP9324 and SP9325 telephone risers. Suitable for wooden floors only	3½	1	55
SP9381	Abandoning plug. Fits flanges SP9310 and SP9315	-----	¾	10
SP9388	Abandoning assembly. For 1.3 in. diam factory-set, field-set, or after-set inserts. Consists of one SP9310 and one SP9381	3½	1	60
SP9389	Abandoning assembly. For 1.9 in. diam factory-set, job-set, or after-set inserts. Consists of one SP9310, and one SP9381	3½	1½	63

SP9341

SP9354

SP9361

HIGH- AND LOW-TENSION OUTLETS

Low- and high-tension outlets, SP9341 and SP9361, have a brown Tenite finish and need no flanges. SP9341 has a double opening so that wires may be brought out on either side. SP9361 has two single convenience outlets, one on either side of the fitting. The SP9354 high-tension outlet has an aluminum finish and has a double convenience outlet on one side only. It also requires no flange.

Cat. No.	Description	Height in In.	Nominal Thread Size in In.	Wt in Lb per 100
SP9341	Low-tension outlet. Brown Tenite finish. Double opening	4	1	100
SP9354	High-tension outlet. Aluminum finish. Double convenience outlet on one side	4½	1	60
SP9361	High-tension outlet. Brown Tenite finish. Two single convenience outlets—one on either side	4	1	112
SP9377	High-tension flush outlet. Black cast iron. Order 4 leveling screws separately	-----	--	400

SP9322

SP9317

SP9324

SP9325

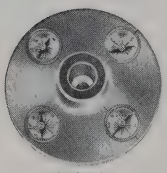
LOW-TENSION CABLE AND TELEPHONE RISERS

Cable and telephone risers and "standpipes" are used as outlets for low-tension systems, such as telephones, signal systems, etc. All these devices require flanges as specified.

SP9317	Cable riser for use with 1.3 in. diam inserts. Order one SP9312 flange for each device	4	1	20
SP9322	Cable riser for use with 1.9 in. diam inserts. Order one SP9308 flange for each device	4	1½	100
SP9324	Telephone riser for use with one 1.3 in. diam inserts. Order either SP9310 or SP9315 flange for each device	4	¾	30
SP9325	Telephone riser with cap for use with 1.3 in. diam inserts. Order either SP9310 or SP9315 flange for each device	4⅝	¾	55

GENERAL ELECTRIC FIBERDUCT

COMPASS, METER FINDERS AND GROUTING COMPOUND



SP9434
Magnetic compass finder

SP9435
Meter finder

SP9490
Grouting compound

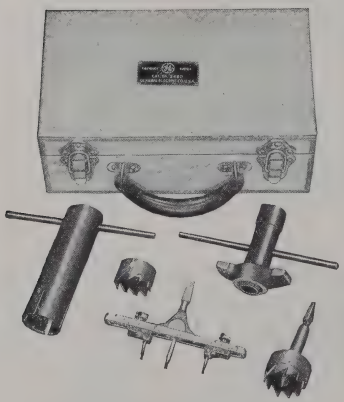
Factory-set or field-set inserts, with either a magnetic pin cap or steel cap, can be located by means of the proper compass or meter finder. With these finders, it is quick and simple to find the location of any insert, when it becomes necessary to install additional outlets. SP9434 is used for inserts with a magnetic pin cap, and SP9435 is used for inserts with a steel cap.

Grouting compound is needed for anchoring after-set inserts only. Approximately 10 pounds of compound are required for every 20 inserts.

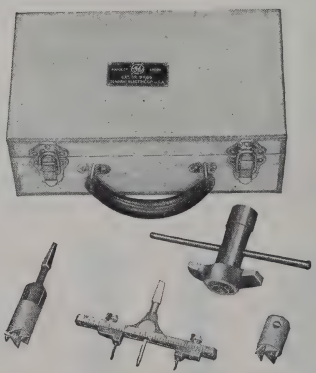
Cat. No.	Description	Wt in Lb per 100
SP9434	Magnetic compass finder. Used to determine location of factory-set or field-set inserts which have magnetic pin caps	30
SP9435	Meter finder. Used to determine location of factory-set or field-set inserts which have steel caps. Plugs into any 110-volt a-c circuit. Furnished with 30-ft all-rubber cord	1000
SP9400	Grouting compound, 10-lb can. For use with after-set inserts only (100 cans)	1000

TOOL KITS

SP9460 Tool Kit
(After-set inserts)



SP9466 Tool Kit
(Factory-set and field-set inserts)



Cat. No.	Description	Wt in Lb per 100
SP9460	Tool kit containing the following items: SP9400 duct cutter; SP9410 insert wrench; SP9415 flange and outlet wrench; SP9450 linoleum cutter; SP9403 cutter blade	1500
SP9466	Tool kit containing the following items: SP9401 duct cutter; SP9404 cutter blade; SP9450 linoleum cutter; SP9415 flange and outlet wrench.	1000

GENERAL ELECTRIC FIBERDUCT

TOOLS

SP9406
Cutter
blade

SP9417
Outlet
wrench

SP9403
Cutter
blade

SP9401
Duct
cutter

SP9402
Duct
cutter

SP9404
Cutter
blade

SP1410
Insert wrench

SP9450
Linoleum cutter

SP9400
Duct cutter

SP9415
Flange and
outlet wrench

Cat. No.	Description	Wt in Lb per 100
SP9400	Duct cutter. For use with 1.3 in. diam after-set inserts	100
SP9401	Duct cutter. For use with 1.3 in. diam factory-set or field-set inserts	100
SP9402	Duct cutter. For use with 1.9 in. diam factory-set or field-set inserts	100
SP9403	Spare cutter blade for SP9400 duct cutter	50
SP9404	Spare cutter blade for SP9401 duct cutter	50
SP9406	Spare cutter blade for SP9402 duct cutter	50
SP9410	Insert wrench for after-set inserts	200
SP9415	Flange and outlet wrench for SP9310 and SP9315 flanges, SP9341 and SP9361 outlets	200
SP9417	Outlet wrench for SP9354	200
SP9450	Linoleum cutter	100

G-E Q-FLOOR WIRING

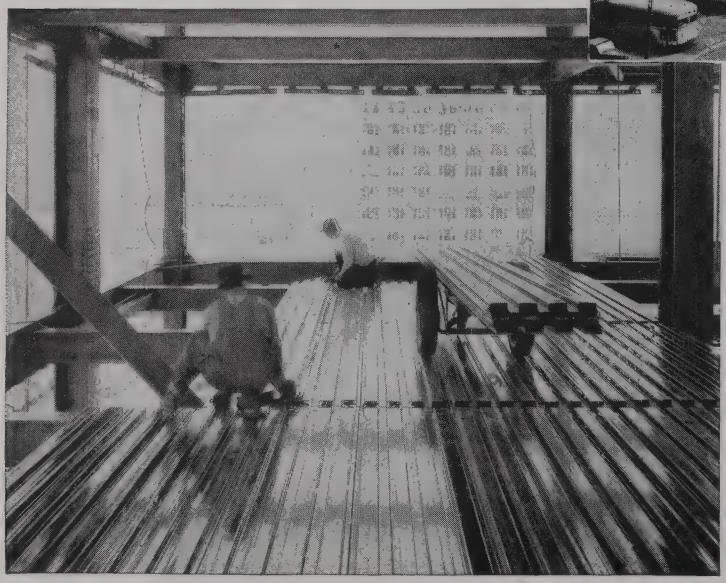
What Is Q-Floor

Q-Floor is a cellular steel floor which combines the great strength and lightweight of steel with considerable economy and advantage to the building owner. Because of its hollow-steel construction, this floor becomes an ideal series of raceways for electric wiring. These raceways provide 100 per cent availability for the electrical system, and keep the building electrically adequate and modern for years.

There are seven basic types of Q-Floor units. Each type varies in size and shape, as well as in the gage of steel used. The individual interlocking units are laid over the entire floor area, and are welded to the beams. They serve both as the structural load-carrying floor and as raceways for the electrical conductors.

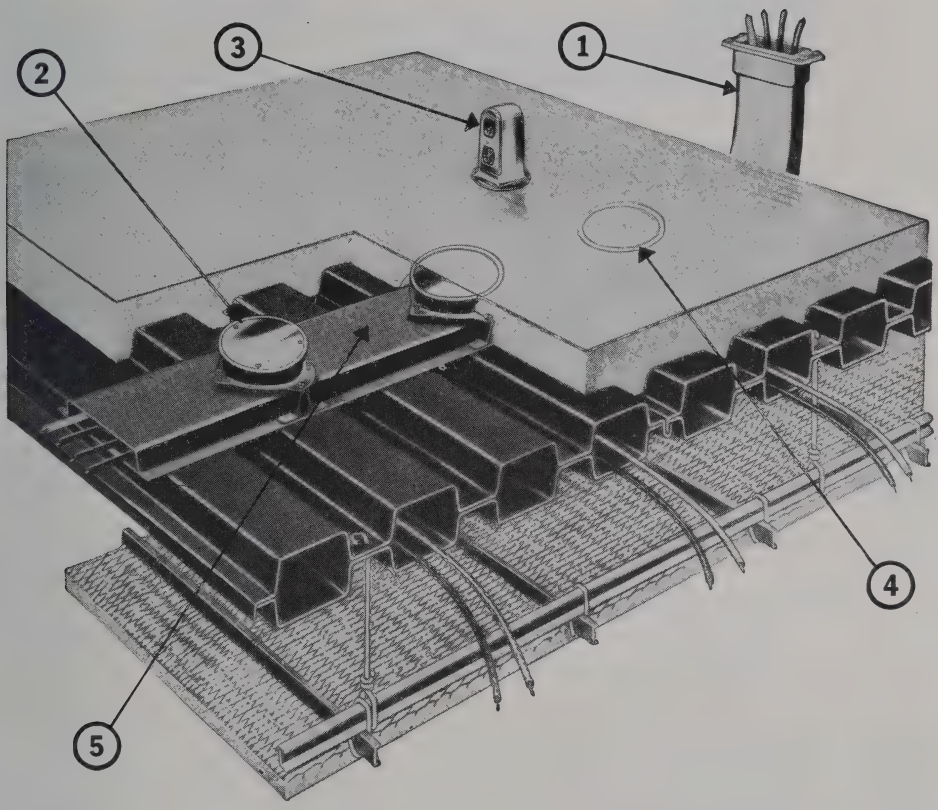
Q-Floors are designed for every type of building, and can be used with any structural frame. Q-Floors are found in office and commercial buildings, manufacturing plants, hospitals, schools, airport administration buildings, fire alarm headquarters, banks, churches, and many other types of buildings.

Commercial National Bank, Shreveport, La.
McKim, Mead, and White, Architects



Laying Q-Floor on the structural steel frame of the seventeen-story Commercial National Bank Building

G-E Q-FLOOR WIRING

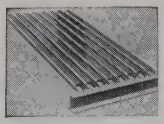


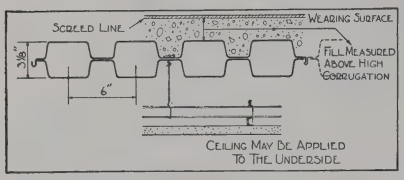
1. Vertical cell to extend the header to panel or cabinet.
2. Junction unit where the wires make a turn from the header into the floor cell.
3. Floor outlet for electrical service placed exactly where desired.
4. Floor covering adapter.
5. Standard header duct.

General Electric Q-Floor wiring consists of the electrical fittings and accessories needed to utilize the cells of the Robertson Q-Floors as raceways for electric conductors. By means of these simple fittings, the entire Q-Floor becomes part of the electrical distribution system. Every Q-Floor cell can become a raceway for wiring that is easily accessible for the installation of outlets. Since these cells are on 6-inch centers, the outlets can be installed in any 6-inch area of the floor's surface. This simple, efficient method provides complete service for as many systems of wiring distribution as are necessary to fill all requirements for any type of building.

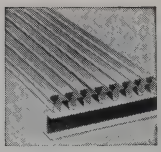
G-E Q-FLOOR WIRING

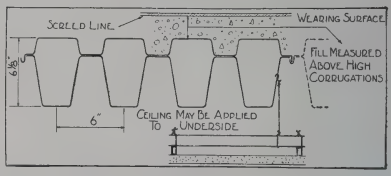
Types of Q-Floor



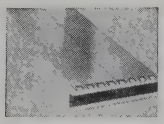


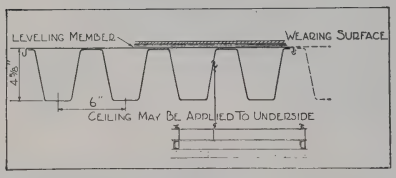
Type RK



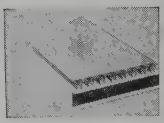


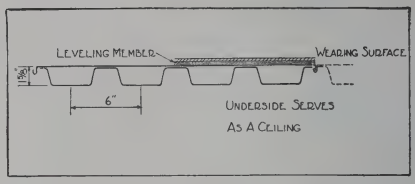
Type K



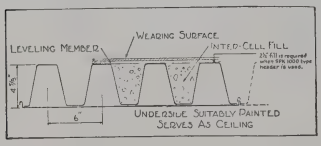


Type FK

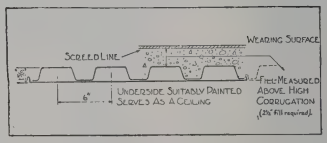




Type UK



Type FK inverted



Type UK inverted

Type RK—for schools, stores, offices, and commercial buildings. This unit is three inches deep, and provides a rectangular cell with a cross-sectional area of 11.25 square inches. For loads of 75 pounds per square foot on spans to 12 feet 6 inches, and 150 pounds on spans to 6 feet.

Type K—for all general floor construction. This unit is 6 inches deep, and has a cross-sectional area of 20.25 square inches. For loads up to 80 pounds per square foot on spans to 19 feet, and 465 pounds per square foot on spans to 12 feet.

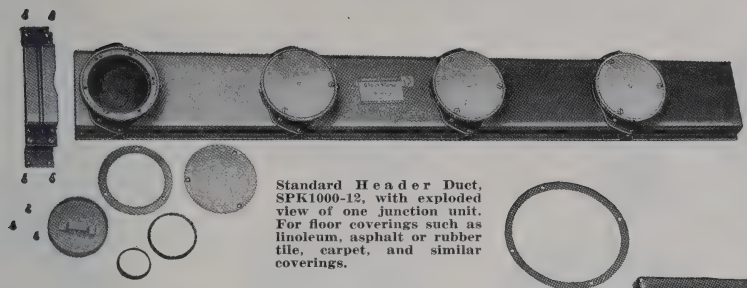
Types FK and FK inverted—for all general floor construction. This unit is 4½ inches deep, and combines a deep rolled section with a flat steel plate. When inverted, the flat underside can be painted or covered with acoustical materials. The cross-sectional area is 14.62 square inches and the load range is 70 pounds per square foot on spans to 18 feet, and to 225 pounds per square foot on spans to 8 feet.

Types UK and UK inverted—for all general floor construction, especially where it is desirable to limit floor thicknesses. When this unit is inverted, it provides a flat ceiling for painting or cementing of acoustical materials. Unit is 1½ inches deep, and provides a cross-sectional area of 5.62 square inches. For loads of 50 pounds per square foot on spans to 11 feet 6 inches, and 200 pounds per square foot on spans to 4 feet 6 inches.

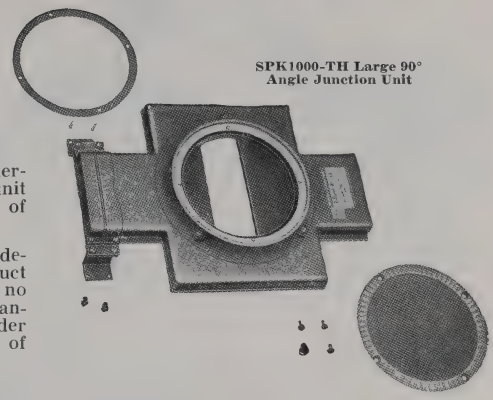
Type DK—(not illustrated) for special constructions only. This unit is 9 inches deep, and has a cross-sectional area of 29.24 square inches. For loads up to 250 pounds per square foot on spans up to 25 feet.

G-E Q-FLOOR WIRING

STANDARD HEADER DUCTS



Standard Header Duct, SPK1000-12, with exploded view of one junction unit. For floor coverings such as linoleum, asphalt or rubber tile, carpet, and similar coverings.



SPK1000-TH Large 90° Angle Junction Unit

Extra-large junction units are for installation wherever more room than that available in the standard unit is desired. To accommodate this unit, twelve inches of the top of the Q-Floor cell must be removed.

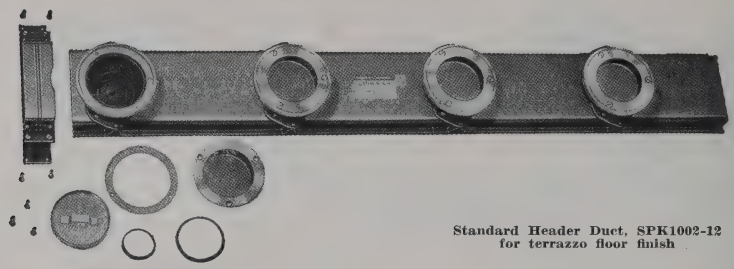
Large 90° junction unit is for use wherever it is desired to extend the full value of the standard header duct at right angles to the run of the header. It provides no entrance to the cells below, and cannot be used if another duct or ducts is parallel to and between the header which is to be extended and the point of termination of the extension.

Cat. No.	Nominal Length	Description	Shipping Wt in Lb.
		Duct for All Q-Floors and Finishes	
SPK1000-00	4′0″	Duct without junction units—no access to cells	4.5 per ft
		Duct for Linoleum, Asphalt, or Rubber Tile, Carpet, Etc., Finish	
		Junction Units With Die Cast Zinc Cover and Trim Ring	
SPK1000-6	6″	Duct with 1 junction unit for special use and panel or box connections	4.5 each
SPK1000-12	4′0″	Duct with 4 junction units spaced every 12″ for 2 wiring systems	7.0 per ft
SPK1000-18	4′6″	Duct with 3 junction units spaced every 18″ for 3 wiring systems	6.5 per ft
SPK1000-24	4′0″	Duct with 2 junction units spaced every 24″ for 4 wiring systems	6.0 per ft
SPK1000-30	2′6″	Duct with 1 junction unit for 5 wiring systems	5.8 per ft
SPK1000-36	3′0″	Duct with 1 junction unit for 6 wiring systems	5.6 per ft
		Duct for Concrete or Ceramic Finish	
		Junction Units With Brass Cover and Trim Ring	
SPK1001-6	6″	Duct with 1 junction unit for special use and panel or box connections	5.5 each
SPK1001-12	4′0″	Duct with 4 junction units spaced every 12″ for 2 wiring systems	8.0 per ft
SPK1001-18	4′6″	Duct with 3 junction units spaced every 18″ for 3 wiring systems	7.2 per ft
SPK1001-24	4′0″	Duct with 2 junction units spaced every 24″ for 4 wiring systems	6.8 per ft
SPK1001-30	2′6″	Duct with 1 junction unit for 5 wiring systems	6.2 per ft
SPK1001-36	3′0″	Duct with 1 junction unit for 6 wiring systems	6.0 per ft
		Large Junction Unit	
SPK1000-T	1′6″	Large junction unit—for floor coverings such as linoleum, asphalt or rubber tile, carpet, etc.	21.0 each
SPK1001-T	1′6″	Large junction unit—for concrete or ceramic finishes	23.0 each
SPK1002-T	1′6″	Large junction unit—for terrazzo finish	24.0 each
		Large 90° Angle Junction Unit	
SPK1000-TH	1′6″	Large 90° angle junction unit—for floor covers such as linoleum, asphalt or rubber tile, carpet, etc.	21.0 each
SPK1001-TH	1′6″	Large 90° angle junction unit—for concrete or ceramic finishes	23.0 each
SPK1002-TH	1′6″	Large 90° angle junction unit—for terrazzo finish	24.0 each

Note: All orders for standard header ducts, or large junction units must specify the fill thickness, wearing surface, and must indicate the type of Q-Floor on which the header or junction is to be used.

G-E Q-FLOOR WIRING

STANDARD HEADER DUCTS



Standard Header Duct, SPK1002-12 for terrazzo floor finish

Standard header ducts are designed for installation on the top of all Robertson Q-Floor cells. They are available in three types:

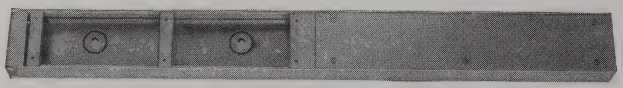
1. SPK1000 series, for floor coverings such as linoleum, asphalt or rubber tile, carpet, or similar coverings.
2. SPK1001 series, for concrete or ceramic finishes which serve as the finished floor.
3. SPK1002 series, for terrazzo finishes.

The top of the duct is made of 14 Usg steel and the bottom of 16 Usg steel. The duct is finished in gray. One coupling with two self-tapping screws is included with each length of duct. The standard (and minimum) fill for these header ducts is 2½ inches above the top of the cell.

Standard header duct junction units have a 5-inch diameter cover, and are equipped with height locking screws, height adjustment screws, bushing grommets, cover, and cover gasket.

Cat. No.	Nominal Length	Description	Shipping Wt in Lb
		Duct for Terrazzo Finish	
		Junction Units with Brass Depressed Covers	
SPK1002-6	6″	Duct with 1 junction unit for special use and panel of box connections	6.0 each
SPK1002-12	4′0″	Duct with 4 junction units spaced every 12″ for 2 wiring systems	8.5 per ft
SPK1002-18	4′6″	Duct with 3 junction units spaced every 18″ for 3 wiring systems	7.7 per ft
SPK1002-24	4′0″	Duct with 2 junction units spaced every 24″ for 4 wiring systems	7.2 per ft
SPK1002-30	2′6″	Duct with 1 junction unit for 5 wiring systems	7.0 per ft
SPK1002-36	3′0″	Duct with 1 junction unit for 6 wiring systems	6.8 per ft

CEILING HEADER DUCTS



SPK2212 Ceiling Header Duct (One Cover Removed)

Cover

Ceiling headers are designed for installation on the underside of all Robertson Q-Floor cells. Two sizes are available:

1. 2½ inches deep; 5 inches wide.
2. 4 inches deep; 6 inches wide.

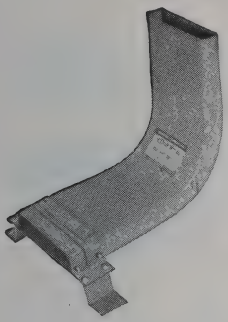
Ceiling header ducts have a 16 Usg steel body and a 14 Usg steel cover, painted gray. Couplings are integral with each length. Mounting screws or bolts are furnished with each length of duct. Pilots indicate where openings of 2 inches or 3 inches can be made in the duct. Openings of 3 inches cannot be made on the bottom of K, DK, and FK cells.

Cat. No.	Nominal Length	Description	Shipping Wt in Lb
		Duct 2½″ Deep, 5″ Wide	
SPK2212	4′0″	Duct with 4 pilots spaced every 12″ for two wiring systems	6.5 per ft
SPK2218	4′6″	Duct with 3 pilots spaced every 18″ for three wiring systmes	6.5 per ft
		Duct 4″ Deep, 5″ Wide	
SPK2412	4′0″	Duct with 4 pilots spaced every 12″ for two wiring systems	8.7 per ft
SPK2418	4′6″	Duct with 3 pilots spaced every 18″ for three wiring systems	8.7 per ft

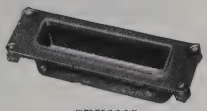
Note: All orders for standard header ducts must specify the fill thickness, wearing surface, and must indicate the type of Q-Floor on which the header is to be used.

G-E Q-FLOOR WIRING

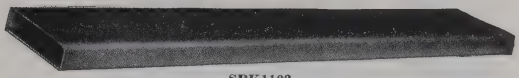
DUCT AND PANEL ACCESSORIES



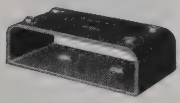
SPK1102
Vertical Ell
and Special Coupling



SPK1105
Panel Box Connector



SPK1103
Panel Duct



SPK1104
Coupling

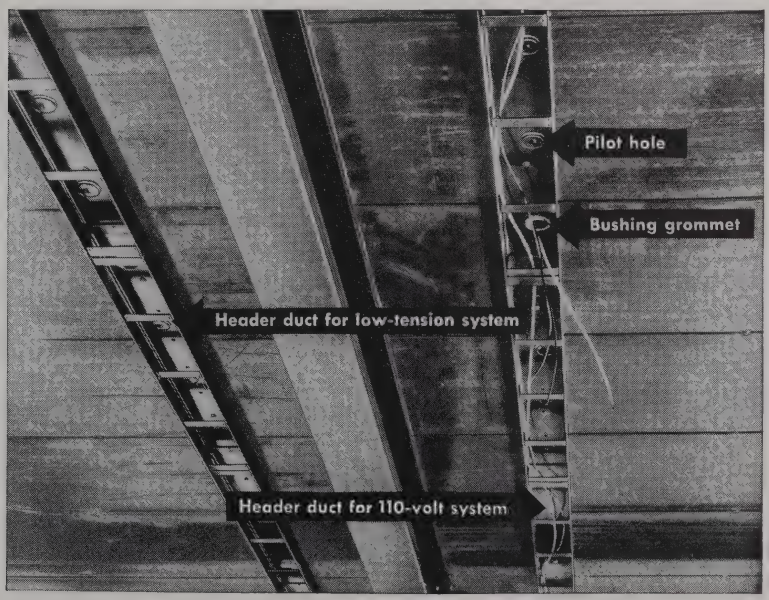
SPK1100
End Closure

SPK1108
Conduit End Adapter

Cat. No.	Description	Shipping Wt in Lbs
	Standard Header Duct Accessories	
SPK1100	End closure to close dead ends of header runs	1.0 each
SPK1102	Vertical 90° ell with coupling to extend header up	6.5 each
SPK1103	Panel duct to connect from vertical ell to cabinet—3-ft. unit lengths	4.0 per ft
SPK1104	Coupling for use between vertical ell and panel duct or between two pieces of panel duct	2.5 each
SPK1105	Box connector. Used to terminate vertical ell or straight duct at box	3.0 each
SPK1106	1" conduit adapter to extend 1" conduit from end of header	1.75 each
SPK1107	1¼" conduit adapter to extend 1¼" conduit from end of header	2.0 each
SPK1108	1½" conduit adapter to extend 1½" conduit from end of header	2.5 each

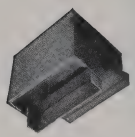
CEILING HEADER DUCTS

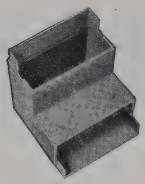
Ceiling header ducts, SPK2212, installed at right angles to the cells in a two-system installation. Both header ducts are shown here with covers removed.

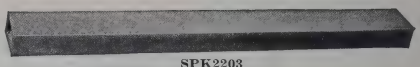


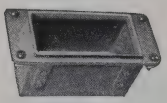
G-E Q-FLOOR WIRING

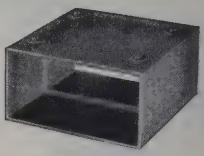
CEILING HEADER DUCT ACCESSORIES

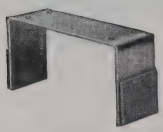

SPK-2202-X
External Ell

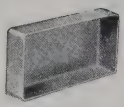

SPK2202-I
Internal Ell

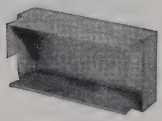

SPK2203
Panel Duct


SPK2205
Box Connector


SPK2204
Coupling


SPK2224
Cover Support


SPK2222
Closure for
Male End


SPK2221
Closure for
Female End

SPK502-AL
Bushing

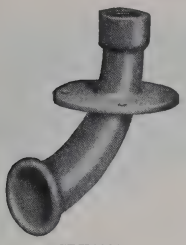
The ceiling header duct and panel duct accessories are used to complete all connections from the headers to the panels and interconnecting cabinets when they are located at the end of the header runs. They are also used to extend the header duct around obstructions in the building such as beams, etc.

SPK2204, 2205, and SPK2404, 2405 are of gray cast iron. The SPK502-AL and 503-AL bushings are aluminum, and are suitable only for bushing openings in ceiling headers. All other accessories are 14 Usg steel, painted gray.

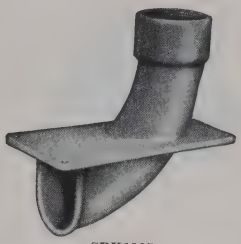
Cat. No.	Description	Shipping Wt in Lb
	Accessories for 2½" x 5" Ceiling Header Duct	
SPK2202-I	Internal ell with removable cover to extend header vertically	8.0 each
SPK2202-X	External ell with removable cover to extend header vertically	8.0 each
SPK2203	3-ft length 2½" x 5" panel duct to connect header to panel or cabinet	4.5 per ft
SPK2204	Coupling for SPK2203 duct	5.0 each
SPK2205	Box connector to connect panel duct to panel or cabinet	5.0 each
SPK2221	Closure for female end or to close duct at cuts	2.0 each
SPK2222	Closure for male end	1.2 each
SPK2224	Extra cover support for use where duct passes through location where built-in cover support cannot be used	1.0 each
	Accessories for 4" x 6" Ceiling Header Duct	
SPK2402-I	Internal ell with removable cover to extend header vertically	10.0 each
SPK2402-X	External ell with removable cover to extend header vertically	10.0 each
SPK2403	3-ft length 4" x 6" panel duct to connect header to panel or cabinet	6.0 per ft
SPK2404	Coupling for SPK2403 duct	7.0 each
SPK2405	Box connector to connect panel duct to panel or cabinet	7.0 each
SPK2421	Closure for female end or to close duct at cuts	2.5 each
SPK2422	Closure for male end	2.0 each
SPK2424	Extra cover support for use where duct passes through location where built-in cover support cannot be used	1.0 each
	Bushings for Ceiling Header Ducts Only	
SPK502-AL	For 2" hole in duct and cell	0.3 each
SPK503-AL	For 3" hole in duct and cell	0.4 each

G-E Q-FLOOR WIRING

ACCESSORIES — CONDUIT TO Q-FLOOR



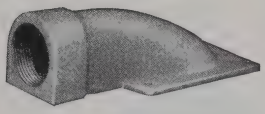
SPK1801
Cell Ell



SPK1805
Cell Ell

Cat. No.	Description	Shipping Wt. in Lbs.
	Cell Ells	
SPK1800	Cell Ell for ½″ conduit. For vertical connection directly from cell. Cast iron — gray	1.5 each
SPK1801	Cell Ell for ¾″ conduit. Same as SPK1800	1.8 each
SPK1802	Cell Ell for 1″ conduit. Same as SPK1800	2.7 each
SPK1803	Cell Ell for 1¼″ conduit. Same as SPK1800	3.2 each
SPK1804	Cell Ell for 1½″ conduit. Same as SPK1800	3.7 each
SPK1805	Cell Ell for 2″ conduit. Same as SPK1800 } Can be used on wide cells only	5.0 each
SPK1806	Cell Ell for 2½″ conduit. Same as SPK1800 }	9.0 each
SPK1815	Cell Ell for 2″ conduit, 5″ long	6.0 each
SPK1816	Cell Ell for 2½″ conduit, 5″ long	10.0 each
	For use with Types FK and UK Inverted floors only. Cast iron — gray	
SPK1820	Cell Ell for ½″ conduit	1.5 each
SPK1821	Cell Ell for ¾″ conduit. Same as SPK1820	1.8 each
SPK1822	Cell Ell for 1″ conduit. Same as SPK1820	2.7 each
	Self-tapping screws included with above.	

SPK1852
Conduit to Cell Connector

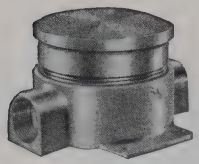


Conduit to Cell Connector
SPK1863

	Flat Cell Connectors for Wide Cells	
SPK1850	½″ conduit to cell connector for wide cells. For use for extension to wall outlets. Cast iron — gray	1.5 each
SPK1851	¾″ conduit to cell connector. Same as SPK1850	2.0 each
SPK1852	1″ conduit to cell connector. Same as SPK1850	3.0 each
SPK1853	1¼″ conduit to cell connector. Same as SPK1850	4.0 each
	Flat Cell Connectors for Narrow Cells	
SPK1860	½″ conduit to cell connector for narrow cells. For use for extension to wall outlets. Cast iron — gray	1.5 each
SPK1861	¾″ conduit to cell connector. Same as SPK1860	2.0 each
SPK1862	1″ conduit to cell connector. Same as SPK1860	3.0 each
SPK1863	1¼″ conduit to cell connector	4.0 each
	Self-tapping screws included with the above.	

G-E Q-FLOOR WIRING

CONDUIT TO Q-FLOOR—ACCESSORIES



SPK1912
Conduit to Cell Box

SPK1915
Pull Box

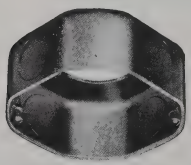
CONDUIT TO CELL BOXES

Cat. No.	Description	Diam. of Cover	Opening Required	Shipping Wt in Lb
	For Top of K, RK, FK, UK and UK Inverted			
SPK1910	Conduit to cell box for ½" conduit } Can be used flush. When	3⅝"	3"	5.0 ea.
SPK1911	Conduit to cell box for ¾" conduit } used under floor cover-	3⅝"	3"	5.0 ea.
SPK1912	Conduit to cell box for 1" conduit } ing, use SPK1510 adapt.	3⅝"	3"	5.0 ea.
SPK1913	Conduit to cell box for 1¼" conduit. Use SPK1500 adapter	5"	3"	8.0 ea.
SPK1913-F	Conduit to cell box for 1¼" conduit. For concrete, ceramic or terrazzo	5"	3"	8.5 ea.
	For Top of DK and FK Inverted			
SPK1920	Conduit to cell box for ½" conduit } Can be used flush. When	3⅝"	2⅛"	5.0 ea.
SPK1921	Conduit to cell box for ¾" conduit } used under floor cover-	3⅝"	2⅛"	5.0 ea.
SPK1922	Conduit to cell box for 1" conduit } ing, use SPK1510 adapt.	3⅝"	2⅛"	5.0 ea.
SPK1923	Conduit to cell box for 1¼" conduit. Use SPK1500 adapter	5"	2⅛"	8.0 ea.
SPK1923-F	Conduit to cell box for 1¼" conduit. For concrete, ceramic or terrazzo	5"	2⅛"	8.5 ea.

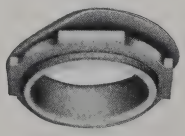
PULL BOXES

	For Top of K, RK, FK, UK and UK Inverted			
SPK1950	Pull box. For use with linoleum, asphalt or rubber tile, carpet, etc.	5"	3"x5¼"	5.0 ea.
SPK1951	Pull box. For concrete or ceramic floors. Brass cover and trim	5"	2"	5.5 ea.
SPK1952	Pull box. For terrazzo. Depressed cover	5"	2"	6.5 ea.
	For Top of FK Inverted and DK			
SPK1960	Pull box. For use with linoleum, asphalt or rubber tile, carpet, etc.	5"	2⅜"x5¾"	5.0 ea.
SPK1961	Pull box. For concrete or ceramic floors. Brass cover and trim	5"	2⅜"x5¾"	5.5 ea.
SPK1962	Pull box. For terrazzo. Depressed cover	5"	2⅜"x5¾"	6.5 ea.

CONDUIT TO Q-FLOOR—FINISHED FLOOR



SPK5202 Octagonal Box



Grommet and Locknut

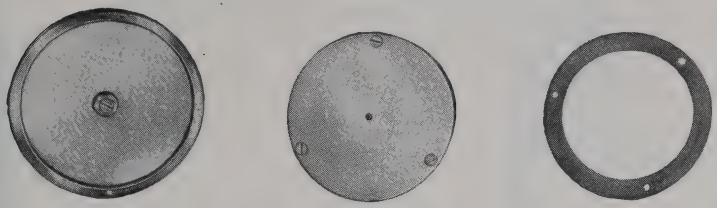
SPK5204 Square Box

These conduit boxes are for use on the bottom of Q-Floors that serve as a ceiling. Each box is furnished with a malleable iron mounting grommet and locknut. Covers are not included.

Cat. No.	Description	Opening Required	Shipping Wt in Lb
	Conduit Boxes (Exposed Use)		
SPK5201	4" octagonal box, 1½" deep, ½" KO	2"	1.0 each
SPK5202	4" octagonal box, 1½" deep, ¾" KO	2"	1.0 each
SPK5203	4" octagonal box, 2⅛" deep, 1" KO	2"	2.0 each
SPK5204	4" square box, 1½" deep, ½" KO	2"	1.0 each
SPK5205	4" square box, 1½" deep, ¾" KO	2"	1.0 each
SPK5206	4 11/16" square box, 2⅛" deep, 1" KO	2"	2.0 each

G-E Q-FLOOR WIRING

ACCESSORIES FOR THE FINISHED FLOOR



Floor Covering SPK1500 Adapter

FLOOR COVERING ADAPTERS

Adapters are designed for installation wherever wiring leaves the SPK1000 header duct junction unit and enters the cell, conduit to cell box, pull box, etc. They are made of brass. The SPK1500 adapter is furnished with a die-cast cover, gasket, and screws. The SPK1500-T and SPK1510 adapters include grommeted screws only.

Cat. No.	Description	For Cover Diam.	Shipping Wt in Lb
	For SPK1000 Junction Units, Conduit to Cell Boxes SPK1913-1923 and Pull Boxes SPK1950-1960		
SPK1500	Floor covering adapter*. New die-cast zinc cover, gasket, and screws included with each order	5″	2.0 ea.
	For Large Size Junction Units SPK1000-T, SPK1000-TH		
SPK1500-T	Floor covering adapter*. Original cover must be drilled and tapped ¼-20 for center screw. New cover not included	8⅝″	1.5 ea.
	For Small Cell Boxes SPK1910, 11, 12; SPK1920, 21, 22		
SPK1510	Floor covering adapter*. Original cover must be drilled and tapped 12-24 for center attaching screw. New cover not included	3⅝″	1.0 ea.

*Thickness of floor covering must be given with each order.

MARKERS

SPK1200

SPK1201

SPK1202

SPK1209-HT

SPK1209-T

SPK1209-S

Identification markers are used to mark the location of cells, and are installed before the fill is poured. Cells must be drilled and tapped 12/24 when markers are installed. Various types are available for the identification of the different distribution systems. Markers finish at the screed line when they are under the floor covering and finish flush with the ceramic or terrazzo finish. Grommeted screws that correspond with the SPK1200-1203 series markers are used when the finish is linoleum, rubber tile or mastic. Markers for more than four systems are available.

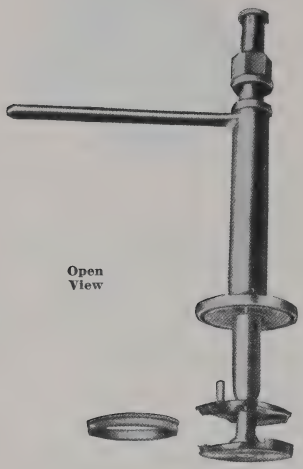
Note: Depth of fill and thickness of floor covering must be given on all order for markers.

Cat. No.	Description	Shipping Wt in Lb
	For All Floor Finishes Except Ceramic and Terrazzo	
SPK1200	Round marker with grommeted screw. High tension	0.2 ea.
SPK1201	Square marker with grommeted screw. Telephone	0.2 ea.
SPK1202	Hexagon marker with grommeted screw. Signal	0.2 ea.
SPK1203	Rectangular marker with grommeted screw. Direct current	0.2 ea.
	For Ceramic and Terrazzo Finish	
SPK1200-F	Round marker. High tension	0.2 ea.
SPK1201-F	Square marker. Telephone	0.2 ea.
SPK1202-F	Hexagonal marker. Signal	0.2 ea.
SPK1203-F	Rectangular marker. Direct current	0.2 ea.
	Screws with Grommets for SPK1000 Junction Unit Identification	
SPK1209-HT	For high-tension identification	0.1 ea.
SPK1209-T	For telephone identification	0.1 ea.
SPK1209-S	For signal identification	0.1 ea.
SPK1209-DC	For direct-current identification	0.1 ea.

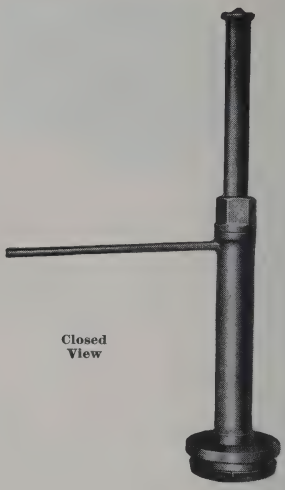
G-E Q-FLOOR WIRING

GROMMET TOOLS

For Use With Standard Header Duct



Open View



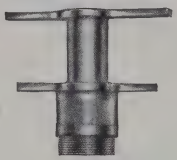
Closed View

Cat. No.	Description	Shipping Wt in Lbs
SPK4802	Tool to install 2″ grommet when inserted through bottom plate of standard header duct and the top of DK, FK inverted floors	10.0 each
SPK4803	Tool to install 3″ grommet when inserted through bottom plate of header duct and the top of K, RK, FK, UK, UK inverted	10.0 each

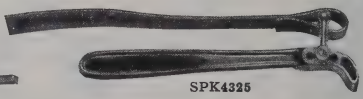
SPK4525

SPK4025

SPK4125



SPK4225



SPK4325

SPK4625

SPK4425

Tools for Installation of Floor Outlets

SPK425	Tool kit containing SPK4025 1⅝″ hole saw with arbor, SPK4125 forming tool, SPK4225 wrench, SPK4325 Warnock wrench, SPK4425 star drill, SPK-4525 cold chisel, SPK4625 floor covering cutter. These tools are necessary to install SPK250 floor taps	25.0 each
SPK4025	1⅝″ hole saw separately for installation of SPK251 floor taps	1.0 each
	Various size holes are available at most hardware and mill supply houses.	

Compounds, Tapes and Screws

SPK1111	Asphaltic compound for corrugated cover plate on K, RK, and flat cover plate on FK, UK floors (1 gal for each 20 plates)	12.0 gal
SPK1113	Asphaltic compound for jute tape (1 gal for each 120 ft of tape	12.0 gal
SPK1112	Tapes. 1½-in. wide jute tape for FK inverted, DK (5 ft for each 2 ft section) and UK inverted (5 ft for each 2 ft section)	3.0 per 100 yd.
SPK1150	Screws. Type Z No. 12x½ in. self-tapping screws (3 per corrugated cover plate and 8 per flat cover plate)	1.0 per C

G-E Q-FLOOR WIRING

OUTLET FITTINGS

SPK200-R
High tension outlet

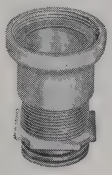
SPK201
Low tension outlet

Cat. No.	Description	Opening Required	Shipping Wt in Lb
	Floor Outlets		
SPK200-R	High-tension floor outlet with GE2679 twin convenience receptacle. Aluminum. Can be furnished with any other standard 10-amp twin receptacle, if so specified	.....	2.0 ea.
SPK200	Same as SPK200-R, except no convenience receptacle. Will accommodate any standard 10-amp twin receptacle	.....	2.0 ea.
SPK201	Low-tension floor outlet. Aluminum	.....	2.0 ea.
	Note: No special low-tension risers available.		

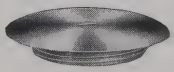
SPK2507
Extension

SPK2505
Cover

SPK250 Standard floor tap with cover



SPK2502
Body



SPK3900
Abandoning plate

SPK251
Shallow floor tap

	Floor Taps and Closures for Floor Outlets		
SPK250	Standard floor tap. Includes SPK2502 body, SPK2505 cover, SPK2507 extension. Adjustable for fills 2″ to 3¼″ above top of cell. Floor taps for fills deeper than 3¼″ can be supplied. Requires SPK425 tool kit	1⅝″	1.3 ea.
SPK251	Floor tap adjustable for fills ⅛″ to ½″ from top of cell to top of wearing surface. Requires SPK4025 hole saw	1⅝″	1.3 ea.
SPK252	Floor tap adjustable for fills $\frac{9}{16}$″ to 1″ from top of cell to top of wearing surface. Requires SPK4025 hole saw	1⅝″	1.3 ea.
SPK253	Floor tap adjustable for fills $1\frac{3}{16}$″ to 1½″ from top of cell to top of wearing surface. Requires SPK4025 hole saw	1⅝″	1.3 ea.
SPK254	Floor tap adjustable for fills $1\frac{9}{16}$″ to 2″ from top of cell to top of wearing surface. Requires SPK425 tool kit	1⅝″	1.3 ea.
SPK3900	Abandoning plate for SPK250, 254	.....	0.5 ea.
SPK3901	Abandoning plate for SPK251, 252, 253	.....	0.5 ea.

SPK531
Stud hanger with canopy plate

SPK530
Stud hanger

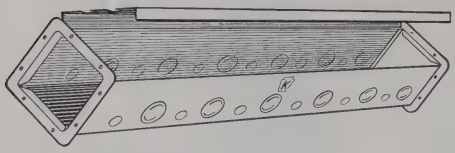
SPK532
Octagon box

SPK510
Conduit hanger

	Ceiling Outlets		
SPK510	½″ hanger for conduit-hung fixtures. Malleable iron. For use on bottom of any cell	2″	1.0 ea.
SPK511	¾″ hanger for conduit-hung fixtures. Malleable iron. For use on bottom of any cell	2″	1.0 ea.
SPK530	⅜″ stud hanger for canopy-type fixtures on bottom of UK inverted and FK inverted when used as a ceiling. Malleable iron	2″	0.5 ea.
SPK531	⅜″ malleable-iron stud hanger with 6″ diameter steel canopy seating plate for bottom of K, RK, FK, UK, and DK, when used as ceiling	2″	1.0 ea.
SPK532	4″ octagon steel box with malleable-iron supporting grommet. For cover-mounted fixtures on bottom of any cell, when used as ceiling. No KO's	2″	1.0 ea.
SPK535	4″ octagon steel box with ⅜″ fixture stud malleable-iron supporting grommet. For use on bottom on any cell. ½″ side KO's	2″	1.0 ea.

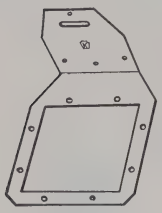
KEYSTONE WIREWAY AND FITTINGS

KEYSTONE INTERCHANGEABLE HINGED COVER SQUARE WIREWAYS



Flanged at both ends to provide easy clamping of connecting sections. Has hinged cover. KO's ½, ¾, 1 and 1¼-inch, provided on side and back.

Cat. No.	Size Inches	Lgth. Feet	Price Each	Cat. No.	Size Inches	Lgth. Feet	Price Each
KD 441	4x4	1	$5.45	KD 661	6x6	1	$14.50
KD 442	4x4	2	6.65	KD 662	6x6	2	19.40
KD 443	4x4	3	7.85	KD 663	6x6	3	21.80
KD 444	4x4	4	9.10	KD 664	6x6	4	24.20
KD 445	4x4	5	10.90	KD 665	6x6	5	31.90



KEYSTONE UNIVERSAL BRACKET HANGER

For use in Wireways on walls or joists. Hangers, interchangeable to match Wireways. Nuts and screws furnished.

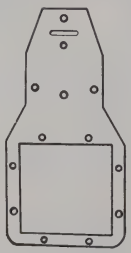
Cat. No.	Size Inches	Wt. Oz. Each	Price Each
KUBH 440	4 x 4	12	$0.85
KUBH 660	6 x 6	20	3.05

KEYSTONE UNIVERSAL DROP HANGER

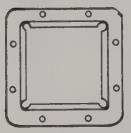
Used for hanging Wireways overhead. Hangers interchangeable with Wireways.

Nuts and screws furnished.

Cat. No.	Size Inches	Wt. Oz. Each	Price Each
KUDH 440	4 x 4	12	$0.85
KUDH 660	6 x 6	20	3.05



KEYSTONE UNIVERSAL WIREWAY COLLAR



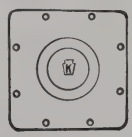
Serves to supply the flange for Wireway when a standard length of the latter must be cut to a shorter length.

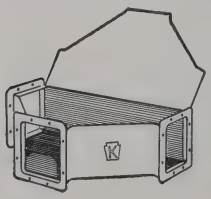
Cat. No.	Size Inches	Wt. Oz. Each	Price Each
KTC 440	4 x 4	12	$1.00
KTC 660	6 x 6	20	3.65

KEYSTONE UNIVERSAL CLOSING PLATE

For closing Wireways. Concentric knockouts provided to accommodate pipe sizes from ½ to 2½ inches.

Cat. No.	Size Inches	Combustion KOs., In.	Price Each
KCP 440	4 x 4	1¼ to 2½	$1.00
KCP 660	6 x 6	1¼ to 2½	3.05





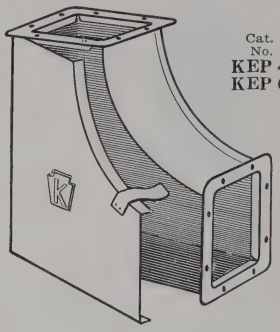
KEYSTONE UNIVERSAL "T" FITTING

Has the "smooth flow" feature permitting wire to be drawn through easily.

Cat. No.	Size Inches	Wt.Lbs. Each	Price Each
KTF440	4x4	6	$13.30
KTF660	6x6	10	48.40

KEYSTONE WIREWAY AND FITTINGS

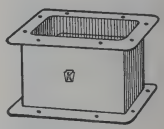
UNIVERSAL 90° ELBOW AND PULL BOX



Cat. No.	Size Inches	Price Each
KEP 440	4x4	$10.90
KEP 660	6x6	30.80

Has "smooth flow" feature, which eliminates many troubles in threading wires through. Hinged cover permits easy access to wiring.

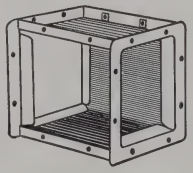
KEYSTONE UNIVERSAL NIPPLES



For use where connections shorter than the standard 1 foot lengths of Wireway must be made. Standard package, 12.

Cat. No.	Size Inches	Wt.Lbs. Each	Price Each	Cat. No.	Size Inches	Wt.Lbs. Each	Price Each
KN441	4x4x1	1	$3.05	KN661	6x6x1	2	$8.00
KN442	4x4x2	1¼	4.05	KN662	6x6x2	2½	9.30
KN443	4x4x3	1½	4.05	KN663	6x6x3	3	10.10
KN446	4x4x6	2	5.35	KN666	6x6x6	5	11.40

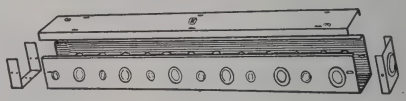
KEYSTONE JUNCTION BOX



This Junction box can readily be used in place of more expensive ell's, tee's, and crosses. Two removable closing plates with knockouts are included in price. Standard package, 8.

Cat. No.	Size Inches	Wt.Lbs Each	Price Each
KJB 440	4 x 5½	2	$4.00
KJB 660	6 x 7½	5	10.90

KEYSTONE UNIVERSAL SCREW COVER FLANGELESS WIREWAY

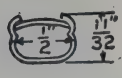


For meter boards, service boards, loadside switches, etc. Provided with ½- to 1½-inch knockouts alternately spaced 3 inches apart, giving ample outlets without costly drilling. Cover easily removed. Heavy gauge steel, baked black enamel or aluminum.

Length Feet	Size 4x4 Inches Cat. No.	Std. Pkg.	Price Each	Size 6x6 Inches Cat. No.	Std. Pkg.	Price Each
1	KFW 441	8	$2.25	KFW 661	4	$5.00
2	KFW 442	8	3.75	KFW 662	4	6.50
3	KFW 443	8	6.00	KFW 663	4	9.00
4	KFW 444	8	8.00	KFW 664	4	12.00
5	KFW 445	8	10.00	KFW 665	4	15.00
	"U" Connectors					
..	KFUC 440	12	.55	KFUC 660	12	.90
	Closing Plates					
..	KFCP 440	12	.50	KFCP 660	12	1.00

WIREMOLD RACEWAY AND FITTINGS

No. 200 WIREMOLD RACEWAY



WIRE CAPACITY

Single Conductor: Type R or RH—2 No. 12; 3 No. 14; 4 No. 16; 4 No. 18. Type T or RU—3 No. 12; 3 No. 14; 6 No. 16; 8 No. 18.

.025-inch steel, standard Wiremold finish. Furnished in 5-ft. lengths with coupling. Packed 100 feet to carton. Weight per 1000 feet, 150 pounds (5 ft. lengths).

No. 200 Wiremold .....per foot **$ .134**

No. 200-F Flexible Section (18-in.) per 100 **206.00**

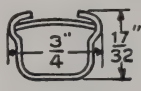
No. 200 WIREMOLD FITTINGS

Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
201	**Coupling**				
	201	100	10	½	$2.40
	1½ inches long.				
202	**Bushing**				
	202	200	50	½	2.70
203	**Supporting Clip**				
	203	200	50	½	3.60
	2½ inches long.				
205	**One Hole Strap**				
	205	200	50	1	2.00
206	**Connection Cover**				
	206	200	50	1	2.20
211	**90° Flat Elbow**				
	211	50	5	2¼	27.00
	Legs 1¼ inches long.				
211 LH	**Internal Twisted Elbow** (For 90° Twist with 90° Turn)				
	211-LH	20	5	1½	50.30
	Legs 2 inches long.				
211 RH	**Internal Twisted Elbow** (For 90° Twist with 90° Turn)				
	211-RH	20	5	1½	50.30
	Legs 2 inches long.				
214	**Pull Box**				
	214	20	5	1½	28.50
	5 inches long.				
217	**Adjustable Internal Elbow**				
	217	50	5	5½	34.80
	Legs 3 inches long.				
218	**External Elbow**				
	218	50	5	2¼	30.30
	Legs ⅞ inches long.				
228	**Adjustable Junction Box**				
	228	20	5	2⅛	62.90
	2½"L.—¾"W.—⅞"D.				
240	**S.P. Switch with Box** 10A., 125V.; 5A., 250V.				
	240	40	1	11½	175.70
	3¼"L.—1⅝"W.—$\frac{31}{32}$"D.				
242	**Utility Box**				
	242	20	1	3¼	86.00
	3¼"L.—1⅝"W —⅞"D.				
243	**Duplex Receptacle** 15A., 125V.; 10A., 250V.				
	243	40	1	9	128.80
	3¼"L.—1⅝"W.—⅞"D.				
251	**Extension Adapter**				
	251	20	1	5½	95.20
	4¾"L.—3"W.—½"D.				
289	**Reducing Connector**				
	289	20	5	1	25.00
289 A	**Adapter**				
	289-A	40	10	1	3.60
	Take-off Kit*				
	200-19	5	1	5	242.00

*Consists of one No. 251 Extension Adapter, a 15-inch length of No. 200 Wiremold, a No. 1989A Reducing Connector, and Wiring Harness of No. 12 Type R Conductors. Everything necessary to extend from existing wall outlet to No. 1900.

WIREMOLD RACEWAY AND FITTINGS

No. 500 WIREMOLD RACEWAY



WIRE CAPACITY

Single Conductor: Type R or RH—2 No. 10; 3 No. 12; 4 No. 14; 6 No. No. 16; 6 No. 18. Type T or RU—2 No. 8; 4 No. 10; 6 No. 12; 6 No. 14; 10 No. 16; 10 No. 18.

.040-inch steel. Standard Wiremold finish. Furnished in 10-ft. lengths with coupling. Packed 100 feet to carton. Weight per 1000 feet, 320 pounds.

No. 500 Wiremold .....per foot **$0.157**

No. 500 WIREMOLD FITTINGS

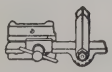
Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
502	**Bushing**				
	502	200	50	½	$3.00
504	**One or Two Hole Strap**				
	504	500	50	9	2.20
506	**Connection Cover**				
	506	200	50	1¾	2.20
511	**90° Flat Elbow**				
	511	100	5	14½	24.50
	Legs 2 inches long.				
512	**45° Flat Elbow**				
	512	20	5	1½	33.80
	Legs ⅞ inches long.				
	Tee				
	515	50	5	8¼	43.80
	3¾"L.—2"W.—¾"D.				
515	**Adjustable Internal Elbow**				
	517	100	5	19	32.60
	Legs 2⅜ inches long. One leg scored.				
	Adjustable External Elbow				
	518	100	5	14	26.50
	Legs 2⅛ inches long. One leg scored.				
517	**Corner Box**				
	519	20	5	4¼	74.70
518	**Keyless Receptacle**				
	526	40	1	15	110.80
	(600W250V)				
599	**Plug Receptacle**				
	527	40	5	13½	150.30
	(15A125V, 10A250V)				
	Open Work Coupling				
	588	20	5	3¼	58.00
	Connector (For Metal Moulding Fittings)				
	599	20	5	1	6.70

600

Bender

For Nos. 200-500-700

Cat. No.	Std. Pkg.	Unit Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
600	1	..	2½	*$6.70

610 

Mitre Box

610	1	..	3¾	*11.00

611

Mitre Box Guide Fingers

611	8	2	½	92.00

615

Wire Pulley

615	1	..	¼	*2.00

Canopy Cutter

657	1	..	4	*40.00

657

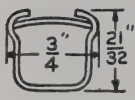
WE Wiremold Enamel

1 pint can..... 137.20

*List price each.

WIREMOLD RACEWAY AND FITTINGS

No. 700 WIREMOLD RACEWAY



WIRE CAPACITY

Single Conductor: Type R or RH-2 No. 8; 3 No. 10; 4 No. 12; 5 No. 14; 10 No. 16; 10 No. 18. Type T or RU—3 No. 8; 6 No. 10; 8 No. 12; 8 No. 14; 16 No. 16; 18 No. 18.

.040-inch steel, standard Wiremold finish. Furnished in 10-ft. lengths with coupling. Packed 100 feet to carton. Weight per 1000 feet, 360 pounds.

No. **700** Wiremold .....per foot **$0.178**

No. **5700-F** Flexible Section (18-in.) per 100 ..... **218.00**

No. 5700 AND 700 WIREMOLD FITTINGS

Fittings having catalog numbers beginning with 57 are for use with 500 and 700 Wiremold.

Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
5701	**Coupling**				
	5701	200	50	3¾	$3.00
702	**Bushing**				
	702	200	50	¾	3.90
5703	**Supporting Clip**				
	5703	500	50	12¾	3.90
704	**One or Two Hole Strap**				
	704	200	50	6¼	3.90
706	**Connection Cover**				
	706	200	50	2	2.40
5708	**Fixture Hook**				
	5708	20	5	1½	34.40
5709	**Ground Clamp**				
	5709	20	5	3⅝	16.00
711	**90° Flat Elbow**				
	711	100	5	16½	27.50
5711 L H	**Internal Twisted Elbows** (For 90° Twist with 90° Turn)				
	5711-LH	50	5	9½	60.30
	Legs 2½ inches long.				
5711 R H	5711-RH	50	5	9½	60.30
	Legs 2½ inches long.				
712	**45° Flat Elbow**				
	712	20	5	1¾	34.10
	Legs 1 inch long.				
715	**Tee**				
	715	50	5	9½	46.80
	3¾"L.—2"W.—1"D.				
717	**Adjustable Internal Elbow**				
	717	100	5	21	34.40
	Legs 2½ inches long. One leg scored.				
5717 A	**Internal Pull Elbow**				
	5717-A	10	1	4¼	92.30
	Legs 5½ inches long.				
718	**Adjustable External Elbow**				
	718	100	5	16	28.10
	Legs 2⅛ inches long. One leg scored.				

WIREMOLD RACEWAY AND FITTINGS

No. 5700 AND 700 WIREMOLD FITTINGS

Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
5719	**Corner Box**				
	5719	20	5	8¼	$92.50
	2½"L.—2⅜"W.—2½"D.				
5719 A	**Corner Box**				
	5719-A	20	5	5½	73.70
	3⅜"L.—1¾"W.—1⅛"D.				
5720	**Narrow Outlet Boxes** No. 5720 with ⅛-inch Male Nipple				
	5720	10	1	2½	88.00
	3¾"L.—⅞"W.—1"D.				
5720 A	5720-A	20	5	4¾	101.40
	3¾"L.—⅞"W.—1"D.				
	With ⅜-inch Male Nipple				
5720 B	5720-B	50	5	10	88.00
	3¾"L.—⅞"W.—1"D.				
5721	**Utility Box**				
	5721	40	5	13¼	70.30
	3" dia., 1¼" deep.				
5725	**Receptacle Base** 660W., 250V.				
	5725	20	5	8½	147.60
	3" dia., 1¼" deep.				
5726	**Keyless Receptacle** 660W., 250V.				
	5726	20	5	8½	110.80
	3" dia., 1¾" deep.				
5727	**Plug Receptacle** 15A., 125V.; 10A., 250V.				
	5727	40	5	16	150.30
	3" dia., 1¼" deep.				
5727 G	**Receptacle** 2-Wire, 3-Pole with Ground				
	5727-G	10	1	5¼	332.00
5727 P	**Receptacle** 3-Wire, Polarized without Ground				
	5727-P	10	1	5½	332.00
5727 R	**Radio Receptacle**				
	5727-R	10	1	4½	270.00
	15 A., 125V.; 10A., 250V.				
5728	**Utility Box**				
	5728	20	1	8	80.00
	4¼"L.—1⅝"W.—1⅜"D.				
5728 B	**S.P. Switch with Box** 10A., 125V.; 5A., 250V.				
	5728-B	10	1	4¾	177.00
	4¼"L.—1⅝"W.—1⅜"D.				
5730	**Connector Block***				
	5730	20	5	1	36.90
5730 A	**Connector Block†**				
	5730-A	8	2	½	73.70
5731	**Blank Cover‡**				
	5731	50	5	3¾	21.70
	2⅜" dia., ¼" deep.				

*660W., 250V. For use with 5721, 5732, and 5733.

†660W., 250V. For use with 5720, 5720A, 5720B, and 5728.

‡For use with 5732 and 5733.

WIREMOLD RACEWAY AND FITTINGS

No. 5700 AND 700 WIREMOLD FITTINGS

Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
	Outlet Box				
5732	**5732** 2½" dia., 1" deep.	20	5	3½	**$73.70**
	Outlet Box				
5733	**5733** 3" dia., 1" deep.	20	5	6	**83.30**
	Blank Extension Box				
5734	**5734** 4¾" dia., 1 1/16" deep.	20	5	13⅛	**120.00**
	Utility Box				
5734 A	**5734-A** 4¾" dia., 1 1/16" deep.	20	5	13½	**126.30**
	Distribution Box				
5735	**5735** 4¾"L.—4¾"W.—1⅜"D.	20	1	17½	**163.50**
	Blank Cover				
5736	**5736** 4 1/16" dia., 1/16" deep. For Nos. 5735-5737A-38A-39-39A, 1035-39.	100	5	19½	**33.80**
	Extension Box				
5737 A	**5737-A** 5½" dia., 1" deep.	60	5	44½	**124.30**
	Fixture Box				
5738 A	**5738-A** 5½" dia., 1" deep.	60	5	49¾	**108.00**
	Grounding Box				
5738F	**5738-F** For Fluorescent Fixtures. 8"L.—3⅛"W.—⅞"D.	20	5	13	**84.70**
	Fixture Box				
5739	**5739** 6⅜" dia., 1" deep.	40	5	43½	**123.00**
	Extension Box				
5739 A	**5739-A** 6⅜" dia., 1" deep.	40	5	41½	**141.00**
	S.P. Switch with Box 10A., 125V.; 5A., 250V.				
5740	**5740** 4 1/16"L.—2½"W.—1⅛"D.	40	1	21	**189.40**
	Switch and Receptacle Box				
5741	**5741** 4⅝"L.—2⅞"W.—1⅜"D.	20	1	12½	**114.40**
	Junction Box				
5742	**5742** 4 1/16"L.—2½"W.—1⅛"D.	20	1	8	**104.80**
	Adjustable Junction Box				
5742 A	**5742-A** 4 1/16"L.—2½"W.—1⅛"D.	20	5	8¼	**145.00**
	Duplex Receptacle and Box 15A., 125V.; 10A., 250V.				
5743	**5743** 4 1/16"L.—2½"W.—1⅛"D.	40	1	22	**148.60**
	Switch and Receptacle Boxes				
	5744‡ 1 Gang—4⅝"L.—2⅞"W.—2¾"D.	20	1	19½	**179.50**
	5744-2‡ 2 Gang—4⅝"L.—4¾"W.—2¾"D.	10	1	12½	**304.00**
	5744-3‡ 3 Gang—4⅝"L.—6½"W.—2¾"D.	10	1	15¾	**359.70**
5744	**5744S** 1 Gang—4⅝"L.—2⅞"W.—2¼"D.	20	1	16	**150.90**
	5744S-2 2 Gang—4⅝"L.—4¾"W.—2¼"D.	10	1	11	**255.00**
	5744S-3* 3 Gang—4⅝"L.—6½"W.—2¼"D.	10	1	12	**302.40**

‡Extra Deep Switch Box and Receptacle.
*Furnished up to 12-gang on special order.

WIREMOLD RACEWAY AND FITTINGS

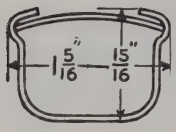
No. 5700 AND 700 WIREMOLD FITTINGS

Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
	Comb. Switch and Recept. Box				
5745	**5745** 4⅝"L.—2⅞"W.—1¾"D.	40	1	27	**$119.00**
	Shallow Switch and Receptacle Boxes				
5747	**5747** 1 Gang—4⅝"L.—2⅞"W.—1⅜"D.	40	1	23	**95.20**
	5747-2 2 Gang—4⅝"L.—4¾"W.—1⅜"D.	10	1	8½	**234.90**
	5747-3 3 Gang—4⅝"L.—6½"W.—1⅜"D.	10	1	10¼	**280.00**
5748	**5748‡** 1 Gang—4⅝"L.—2⅞"W.—1¾"D.	40	1	27	**106.00**
	5748-2 2 Gang—4⅝"L.—4¾"W.—1¾"D.	20	1	20	**242.00**
	5748-3 3 Gang—4⅝"L.—6½"W.—1¾"D.	10	1	12¼	**304.50**
5748 S	**Shallow Receptacle Box** **5748-S** 4⅝"L.—2⅞"W.—1 1/16"D.	40	1	19½	**92.20**
5749	**Switch and Receptacle Box** **5749** 4⅝"L.—2⅞"W.—2 1/16"D.	10	1	5½	**194.00**
	Flush Type Extension Adapters				
5751	**5751** 1 Gang—4⅝"L.—2⅞"W.—1 1/16"D.	40	1	17	**95.20**
5752	**5752** 2 Gang—4⅝"L.—4¾"W.—1 1/16"D.	10	1	6	**265.00**
5753	**5753** 3 Gang—4⅝"L.—6½"W.—1 1/16"D.	10	1	7½	**318.00**
5760	**Blank Extension Box** **5760** 4⅝"L.—2⅞"W.—1 1/16"D.	10	1	5	**123.20**
	Special Nipple				
5780	**5780** (With ½" locknut.) ⅜" internal thread, ½" external thread.	20	5	1	**26.00**
	Box Connectors				
5781	**5781** ½-inch male.)	100	5	5½	**36.50**
5781 A	**5781-A** (¾-inch male.)	20	5	2⅛	**59.60**
	Conduit Connectors				
5782	**5782** (½-inch female.)	50	5	4½	**41.80**
5782 A	**5782-A** (¾-inch female.)	20	5	2¾	**64.60**
	Elbow Box Connector				
5783	**5783** 2⅛"L.—1¼"W. (½" male).	20	5	2½	**67.10**
	Elbow Conduit Coupling				
5784	**5784** 2⅛"L.—1¼"W. (½" female).	10	1	2	**67.10**
	Combination Connector				
5785	**5785** 2½"L.—1⅝"W.—1 1/16"D.	50	5	7⅛	**36.50**
	Adjustable Offset Connector				
5786	**5786** 2⅜"L.—1⅝"W.—2 1/16"D.	20	5	5½	**96.50**
	Kick Plate				
5787	**5787** 3"L.—1⅝"W.—1⅝"D.	10	1	3¾	**70.40**
	Open Work Coupling				
5788	**5788** 3"L.—2¼"W.—⅝"D.	20	5	4¾	**65.30**
	Armored Cable Connectors				
5790	**5790** (Use on special approval only.)	50	5	2	**20.20**
5790 A	**5790-A**	50	5	3	**18.50**

‡Switch and Receptacle Box.

WIREMOLD RACEWAY AND FITTINGS

No. 1000 WIREMOLD RACEWAY



WIRE CAPACITY

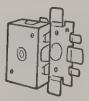
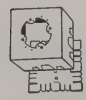
Single Conductor: Type R or RH—4 No. 6; 5 No. 8; 6 No. 10; 10 No. 12; 10 No. 14; 24 No. 16; 24 No. 18. Type T or RU—5 No. 6; 8 No. 8; 8 No. 10; 10 No. 12; 10 No. 14; 40 No. 16; 50 No. 18.

.040-inch steel, standard Wiremold finish. Furnished in 10-foot lengths with coupling. Packed 100 feet to carton.

Weight per 100 feet, 64 pounds.

No. **1000** Wiremold Raceway .....per ft. **$0.408**
No. **1000-F** Flexible Section (18") per 100 **248.20**

No. 1000 WIREMOLD FITTINGS

Installation Fittings		Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
1001		**Coupling**				
		1001	100	10	6¾	**$9.20**
1002		**Bushing**				
		1002	40	10	1	**7.60**
1003		**Supporting Clip**				
		1003	100	10	4¼	**7.60**
1004		**Two Hole Strap**				
		1004	100	10	5	**14.30**
1005		**One Hole Strap**				
		1005	100	10	3½	**14.30**
1009		**Ground Clamp**				
		1009	4	1	½	**31.90**
1011		**90° Flat Elbow**				
		1011	10	1	7	**78.00**
		Each leg 4½" long.				
1011 LH		**Internal Twisted Elbow**				
		1011-LH	4	1	2½	**140.00**
		(For 90° Twist with 90°Turn)				
		One leg 2⅛" long—one leg 3¼" long.				
1011 RH		**Internal Twisted Elbow**				
		1011-RH	4	1	2½	**140.00**
		(For 90° Twist with 90° Turn)				
		One leg 2⅛" long—one leg 3¼" long.				
1013		**Adjustable Flat Elbow**				
		1013	4	1	2½	**96.40**
		Each leg 2⅝ inches long. For bends from 56° to 128°.				
1017		**Internal Elbow**				
		1017	6	1	5	**110.80**
		One leg 4¼"—one leg 5¼" long.				
1018		**External Elbow**				
		1018	4	1	1	**71.30**
		Each leg is 2½ inches long.				
1028		**Utility Box**				
		1028	10	1	9¼	**140.80**
		4⅝"L.—2⅞"W.—1⅝"D.				
1035		**Distribution Box**				
		1035	6	1	13	**228.80**
		6⅜"L.—6⅜"W.—1⅞"D.				
1039		**Fixture Box**				
		1039	10	1	13	**187.00**
		6⅜" dia., 1⅛" deep.				

WIREMOLD RACEWAY AND FITTINGS

No. 1000 WIREMOLD FITTINGS

Installation Fittings		Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
1048		**Switch and Recept. Box**				
		1048	10	1	9	**$212.00**
		4⅝"L.—2⅞"W.—1¾"D.				
1082		**Conduit Connector**				
		1082	10	1	4	**115.00**
		1" female.				
1085		**Combination Connector**				
		1085	10	1	4⅛	**59.50**
		3⅞"L.—2⅛"W.—2"D.				
1086		**Adjustable Offset Connector**				
		1086	4	1	3	**145.00**
		3⅛"L.—2⅛"W.—3½"D.				
1087		**Kick Plate**				
		1087	10	1	5½	**77.00**
1089		**Reducing Connector**				
		1089	20	5	2¾	**27.70**
		From 1000 Twistout to 500 or 700 Wiremold.				

No. 1100 WIREMOLD LIGHTING STRIP

Wiremold finish. Furnished in 10-foot lengths. 100 feet per carton. Weight per 100 feet, 44 lbs. 1$\frac{13}{32}$ inches wide, 1$\frac{3}{32}$ inches deep.

No. **1100B** Channel.....per ft. **$0.263**

No. 1100 WIREMOLD FITTINGS

		Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
1101		**Coupling**				
		1101	20	5	3¾	**$43.70**
1101A		**Inside Coupling**				
		1101A	5	1	1	**15.20**
1104		**Two Hole Strap**				
		1104	20	5	1¾	**14.30**
1108		**Adjustable Hanger Assembly**				
		1108	10	1	8⅛	**203.00**
1108A		**Hanger Clamp**				
		1108A	20	5	1½	**42.00**
1108B		**Bracket Hanger**				
		1108B	2	1	2½	**101.40**
1110		**End Fitting**				
		1110	20	5	1¼	**35.20**
1110A		**Conduit Connector**				
		1110A	20	5	2½	**61.20**
1110B		**Blank End Fitting**				
		1110B	20	5	½	**21.70**
1113		**Adjustable Flat Elbow**				
		1113	4	1	2½	**110.80**
1114		**Turnover Connector**				
		1114	2	1	¾	**51.90**

WIREMOLD RACEWAY AND FITTINGS

No. 1100 WIREMOLD FITTINGS

Installation Fittings	Cat. No.	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
1114A	Combination Connector (½" KO) 1114A	5	1	1¾	$51.90
1115	Tee (½" KO) 1115	4	1	2	68.80
1117	Internal Elbow 1117	4	1	1¾	81.30
1118	External Elbow 1118	4	1	1½	99.70
1123	Takeoff Fitting (⅜" Female) 1123	20	5	2¼	73.70
1123A	Takeoff Fitting (⅜" Male) 1123A	20	5	1¾	73.70
1124	Takeoff Fitting (½" Female) 1124	20	5	2¾	77.10
1126	Keyless Socket 1126 (660W250V)	20	1	6¾	99.90
1126A	Bayonet Reflector Socket 1126A (660W250V)	20	1	8	107.30
1126B	Angle Socket 1126B (660W250V)	10	1	7⅛	184.50
1127	Plug Receptacle 1127 (15A125V, 10A125V)	20	1	2	70.40
1128	Utility Box 1128	10	1	5¼	166.00
1173	Adjustable Offset Connector 1173 (1100 to 1500)	10	1	2½	67.00
1174	Takeoff Connector 1174 (1100 to 500 or 700)	10	1	2⅛	58.70
	End Connector (¾" Male) 1181A	20	5	2½	73.70
1181A	Conduit Connector (1" Female) 1182B	20	5	4	92.00
1182B					

No. 1500 PANCAKE WIREMOLD OVERFLOOR RACEWAY

Furnished in 10-foot lengths without couplings. 100 feet to carton. Weight per 100 feet, 50 lbs.
Price, No. 1500 Pancake Wiremold....per ft. $0.378

No. 1500 PANCAKE RACEWAY FITTINGS

1500WC
1502
1504
1517

Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
1500WC	Wire Clip	200	20	½	$1.40
1502	Bushing	40	10	½	8.00
1504	Two-hole Strap	50	10	4¼	13.20
1511	90° Flat Elbow	20	1	4	36.90
1517	Internal Elbow (Each leg 2½ inches.)	20	5	4¾	36.90

WIREMOLD RACEWAY AND FITTINGS

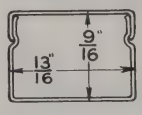
No. 1500 PANCAKE WIREMOLD FITTINGS

1517A
1518
1524
1524A
1542A
1542B
1542D
1542E
1542G
1543
1543A
1585

Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Pkg. Wt.	Price Per 100
1517A	Adapter Fittings (With fibre bushing.)	20	5	4	$51.80
1518	External Elbow (Each leg 2½ inches.)	20	1	5	44.00
1524	Telephone Outlet (4 inches diameter, 3⅜ inches high.)	20	1	11½	180.00
1524A	Narrow Telephone Outlet (3¼" L., 1⅜" W., 3⅝" H.)	20	1	8	147.60
1542A	Narrow Junction Box (½" Female Bushing) (3¼" L., 1⅜" W., 1⅞" Overall.)	20	5	5	62.90
1542B	Base for Floor Receptacle (having ¾" Stem) (For Standard Floor Receptacle having ¾" Stem.)	10	1	9½	468.00
1542D	Junction Box Deep Type	20	5	7½	73.70
1542E	*Junction Box Deep Type ⅜" Connector ⅜" Bushing	20	1	7½	92.30
1542G	Narrow Junction Box with ⅜" Connector (½" Female Bushing)	20	5	5	104.00
1543	Duplex Receptacle (15 Amp., 125 Volt—10 Amp., 250 Volt. 4 inches dia., 1½ inches deep.)	20	1	14	184.50
1543A	Polarized Duplex Receptacle (3 Wire, 15 Amp., 125 Volt—10 Amp., 250 Volt. 4 inches dia., 1½ inches deep.)	10	1	7½	516.00
1585	Combination Connector (3¾" L., 1⅜" W., 1¾" D.)	20	5	5	44.00

*For telephone use.

No. 1900 PLUGMOLD



WIRE CAPACITY

Single Conductor: Type R, RH, T, or RU with receptacles—3 No. 12; 3 No. 14. Type R, RH, T, or RU without receptacles—3 No. 12; 3 No. 14; 10 No. 16; 10 No. 18.

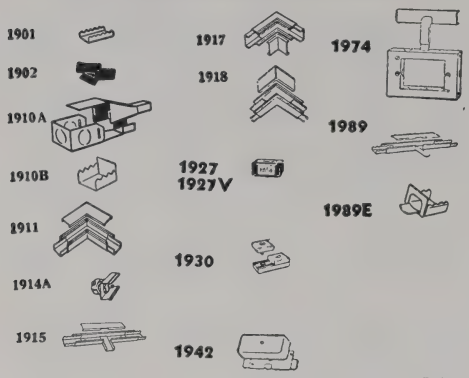
Has supporting screw knockouts at approximately 8-inch centers.

Base and cover of .025-inch steel, standard Wiremold finish. Furnished in 5-ft. lengths without couplings. Packed 100 ft. to carton. Weight per 100 ft.; Channel, 19 lbs.; cover, 12 lbs.

No. 1900B Channel .....per ft. $0.117
No. 1900C Cover .....per ft. .087

WIREMOLD RACEWAY AND FITTINGS

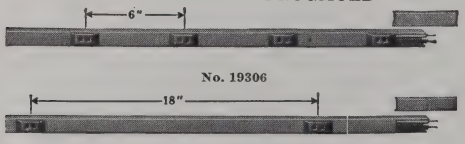
No. 1900 PLUGMOLD FITTINGS



Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
1901	Coupling, 1½" long..	50	5	1	$6.10
1902	Fibre Bushing 200	50		½	3.30
1910A	End Fitting	20	5	3½	29.40
1910B	Blank End, ¾" long..	20	5	¾	13.30
1911	90° Flat Elbow.....	10	1	3	49.30
	Base each leg 3¼" long. Cover each leg 2" long.				
1914A	Connector	20	2	5¾	49.30
	4" long has Connector for armored cable or non-metallic sheathed cable.				
1914C	Wall Box Connector	8	2	3¼	78.00
1915	Tee	30	3	10	51.90
	Base 6" long, cover 4" long.				
1917	Internal Elbow	20	1	3	56.70
	Base 1 leg 2⅛", 1 leg 3⅛" L. Cover, legs 1" L.				
1918	External Elbow	10	1	1¾	51.90
	Base 1 leg 2⅛", 1 leg 3¼" L. Cover, legs 1½" L.				
1927	Receptacle (brown)	50	5	2¾	62.20
1927V	Receptacle (ivory) ..	50	5	2¾	77.10
1930	Connector Block	20	5	1¼	41.60
1942	Junction Box	20	1	3¼	63.80
1974	Take-off Connector ..	4	1	½	134.20
1989	Reducing Connector (1900 to 500)	5	1	2	70.10
1989A	Reducing Connector (1900 to 200)	5	1	2	70.10
1989E	Reducing Connector (End of 1900 to 200)	20	5	¾	24.20
200–19	Take-off Kit*	5	1	5	242.00

*Consists of one No. 251 Extension Adapter, a 15-inch length of No. 200 Wiremold, a No. 1989A Reducing Connector, and Wiring Harness of No. 12 Type R Conductors. Everything necessary to extend from existing wall outlet to No. 1900.

No. 1900 WIRED PLUGMOLD



Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
19306	3-Ft. Lgth., 6 Outlets, 6" on Centers.....	10	1	16	$543.00
19606	6-Ft. Lgth., 12 Outlets, 6" on Centers.....	10	1	26	1035.10
19618	6-Ft. Lgth., 4 Outlets, 18" on Centers.....	10	1	27	577.50

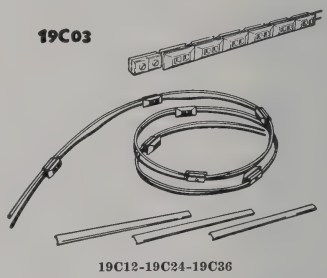
WIREMOLD RACEWAY AND FITTINGS

No. 1900T PLUGTRIM

Packed 100 feet per carton; weight per 100 feet 10 lbs. (5 ft. lengths). List per ft.....$0.126

Cat. No.	Fitting	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
1903T	Mounting Clip	100	10	1	$ 5.70
1917T	Internal Elbow	20	5	¾	20.30

1900 SERIES SNAPICOIL



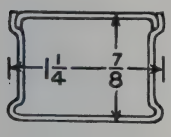
For use with standard No. 1900 channel, SNAPICOIL is a wiring harness consisting of No. 1927 Receptacle (brown or ivory) wired at the factory with two No. 12 Type R wires. Receptacles are listed and wire is labeled by Underwriters' Laboratories, Inc.

Cat. No.	Fitting	Wt. Lbs. Per Coil	Price Per Coil
*19C03	13-inch coil with 6 brown receptacles. One 1930 connector block furnished.....	1½	$5.40
*19C03V	Same as 19C03 except receptacles are ivory.....	1½	6.00
19C12	25-foot coil with 25 brown receptacles wired 12" on centers. 1900C cover sections furnished	6	24.90
19C12V	Same as 19C12 except receptacles are ivory.....	6	27.70
19C18	50-foot coil with 33 brown outlets wired 18" on centers. 1900C cover sections furnished	10	38.20
19C18V	Same as 19C18 but with ivory outlets	10	42.00
19C24	50-foot coil with 25 brown receptacles wired 24" on centers. 1900C cover sections furnished	10	30.60
19C24V	Same as 19C24 except receptacles are ivory.....	10	33.60
19C36	50-foot coil with 16 brown receptacles wired 36" on centers. 1900C cover sections furnished	10	23.90
19C36V	Same as 19C36 except receptacles are ivory.....	10	25.60

*Std. Pkg. 3; Unit Pkg. 1.

WIREMOLD RACEWAY AND FITTINGS

No. 2100 PLUGMOLD



WIRE CAPACITY

Single Conductor: Type R or RH—4 No. 6; 6 No. 8; 10 No. 10; 10 No. 12; 10 No. 14; 24 No. 16; 24 No. 18. With Devices in place—6 No. 12; 6 No. 14. Type T or RU—5 No. 6; 8 No. 8; 10 No. 10; 10 No. 12; 10 No. 14; 40 No. 16; 50 No. 18. With devices in place—6 No. 8; 8 No. 10; 10 No. 12; 10 No. 14.

No. 2100B Channel .040-inch steel, standard Wiremold finish. Furnished in 10-ft. lengths without couplings; packed 100 ft. to carton. Weight per 100 ft. 41 pounds.

No. 2100C Cover .040-inch steel, standard Wiremold finish. Furnished in lengths of 5 feet, scored every 3 inches. Packed 100 feet to carton. Weight per 100 feet, 19 pounds.

No. **2100B** Channel .....per ft. **$0.224**
No. **2100C** Cover .....per ft. **.16**

No. 2100 PLUGMOLD FITTINGS

Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std. Pkg.	Price Per 100
2100WC	Wire Clip	200	20	2	$3.60
2101	Coupling	20	5	2	8.00
2101A	Rigid Coupling	20	5	1	16.70
2106	Cover Clip	100	20	¼	4.00
2108A	Hanger Clamp	20	5	2	40.00
2108D	Fixture Hook	20	5	2	30.30
2110A	End Connector (½" Locknut)	20	5	3	34.40
2110B	Blank End Fitting	20	5	2	17.50
2111	90° Flat Elbow	20	5	5	51.80
2115	Tee	4	1	1¾	129.20
2117	Internal Elbow*	20	5	5	53.60
2118	External Elbow*	20	5	5	59.50
2121	Telephone Outlet	20	5	1½	31.00
2126	Keyless Socket 660W, 250V.	20	1	7	99.90

*(With cover).

WIREMOLD RACEWAY AND FITTINGS

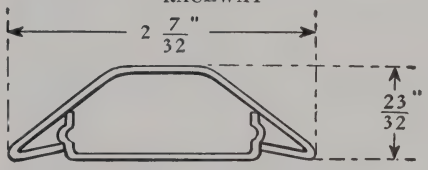
No. 2100 PLUGMOLD FITTINGS

Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std. Pkg.	Price Per 100
2127	Plug Receptacle (Brown) 15A, 125V; 10A, 250V.	40	1	4	$70.40
2127V	Plug Receptacle (Ivory) 15A, 125V; 10A, 250V.	40	1	4	95.60
2127D	Lumiline Recept. Single, 660W, 250V.	20	2	1	73.70
2127H	Midget Twist-Lock Receptacle 2-wire (Brown)	20	1	4	185.90
2127P	3-W, Polarized Receptacle (Brown) 15A, 125V; 10A, 250V.	20	1	3	132.40
2127S	T-Slot Receptacle (Brown) 15A, 125V; 10A, 250V.	40	1	4¾	78.00
2129	Adapter (Conduit Type)	10	1	¾	32.00
2140	Single Pole Switch with Box 10A, 125V; 5A, 250V.	20	1	6	161.00
2173	Offset Connector (2100 to 1500)	10	1	1¼	44.30
2174	Takeoff Connector (2100 to 500 or 700)	10	1	2	58.80
2182A	End Fitting, ¾-in. Female Bushing	20	5	3½	92.30

No. 2100 COVERS For Lumiline Lamp

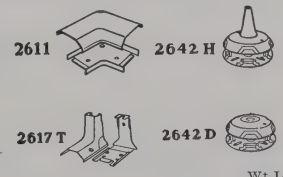
Cat. No.	Fitting	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std. Pkg.	Price Per 100
21211	For 12-inch Lumiline Lamp	10	1	2¼	$20.00
21212	For 18-inch Lumiline Lamp	10	1	3½	31.90

No. 2600 WIREMOLD PANCAKE OVERFLOOR RACEWAY



Capacity: 2 26-pair telephone cables.
Cover, .050-inch steel; Base, .040-inch steel, galvanized. Furnished in 10-foot lengths, without couplings, 50 feet to carton; weight 46 lbs.
Price, No. **2600** Pancake Raceway....per ft. **$0.553**

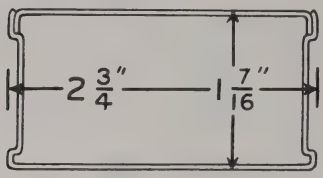
No. 2600 PANCAKE FITTINGS



Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Wt.Lbs. Std. Pkg.	Price Per 100
2611	90° Flat Elbow	5	1	1¾	$167.80
2617T	Telephone Elbow	20	2	7	139.20
2642D	Junction Box	10	1	5½	147.60
2642H	Junction Box (with 3" Rubber Stem)	8	1	5¼	218.00

WIREMOLD RACEWAY AND FITTINGS

No. 3000 WIREMOLD RACEWAY



WIRE CAPACITY, TYPES R OR RH, TYPES T OR RU

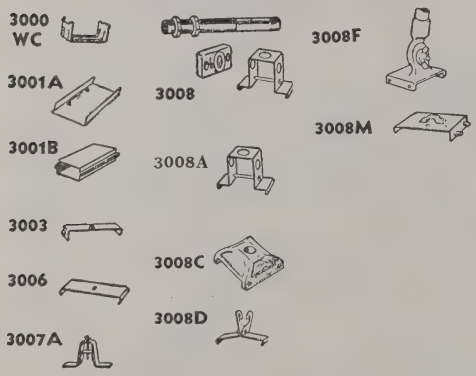
Single Conductor: Type R or RH—8 No. 6; 10 No. 8; 10 No. 10; 10 No. 12; 10 No. 14; 100 No. 16; 100 No. 18. With receptacles or devices in place, 6 No. 6; 8 No. 8; 10 No. 10; 10 No. 12; 10 No. 14. Type T or RU—8 No. 6; 10 No. 8; 10 No. 10; 10 No. 12; 10 No. 14; 100 No. 16; 100 No. 18. With receptacles or devices in place—8 No. 6; 10 No. 8; 10 No. 10; 10 No. 12; 10 No. 14.

.040-inch steel, standard Wiremold or white finish. Furnished in 8-foot lengths without couplings, 80 feet to carton. Weight per 80 feet: channel, 64 lbs.; cover, 32 lbs.

Has ½ and ¾-inch entrance knockouts approximately 8-inch centers. Has supporting screw knockouts approximately 8-inch centers.

No. 3000-B Channel .....per foot $0.437
No. 3000-C Cover .....per foot .224

No. 3000 WIREMOLD FITTINGS

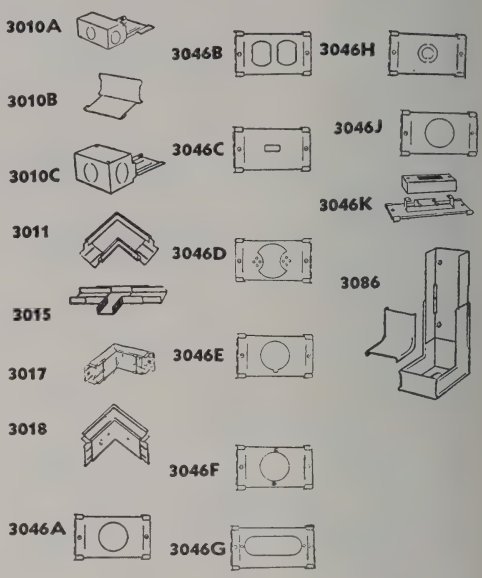


Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
*3000WC	Wire Clip	40	1	2	$ 5.00
*3001A	Rigid Inside Coupling	10	2	4	20.00
3001B	Rigid Outside Coupling	8	2	9	83.80
3003	Supporting Clip	50	5	2½	16.70
3006	Cover Clip	40	10	1½	3.30
*3007A	Mounting Strap for Wiring Devices	80	2	8	8.50
3008	Hanger Assembly (With ⅜" Pipe Nipple)	10	1	8	211.40
3008A	Hanger Clamp	10	1	2	43.70
3008C	Hanger Casting (Tapped for ½" Conduit)	4	1	7½	150.90
3008D	Loop Hanger	20	2	1¾	30.30
3008F	Adjust. Ratchet Hanger (Tapped for ½" Conduit)	5	1	6	226.40
3008M	Messenger Cable Hanger	10	5	1¾	106.70

*Unpainted.

WIREMOLD RACEWAY AND FITTINGS

No. 3000 WIREMOLD FITTINGS (Continued)



Cat. No.	Fitting	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
3010A	End Fitting, ½" Knockout	20	1	4	$60.40
3010B	Blank End Fitting	20	5	2	22.90
3010C	End Fitting, 1" Knockout	4	1	1¾	90.50
3011	90° Flat Elbow	5	1	5	100.50
3015	Tee	5	1	10	167.80
3017	Internal Elbow	10	1	10	104.00
3018	External Elbow	5	1	3	100.70
3028	Utility Box	6	1	13	440.00
3046A	Single Receptacle Cover (For Devices Rated 15A 100V, 10A 250V)	10	1	2¾	46.20
3046B	Duplex Receptacle Cover	10	1	2¾	46.20
3046C	Tumbler Switch Cover	10	1	2¾	46.20
3046D	Surface Device Cover	10	1	2¾	46.20
3046E	Screw Type Sign Rec. Cover	10	1	2¾	46.20
3046F	Surface Type Sign Rec. Cover	10	1	2¾	46.20
3046G	Condulet Device Cover	10	1	2¾	46.20
3046H	Fixture and Drop Cord Cover	10	1	2¾	46.20
3046J	Single Receptacle Cover (For Devices Rated 20A 250V)	10	1	2¾	46.20
3046K	Circuit Breaker Cover	20	2	10½	242.00
3086	Adjustable Offset Connector	5	1	4¼	182.90

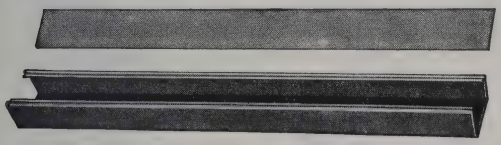
CURTISTRIP

CurtiStrip is a large capacity wiring channel and raceway that offers unusual flexibility and a wide range of uses with its standardized fittings. The patented snap-in flat cover permits outlets to be installed on any spacing. The cover, placed between sockets or fittings, is cut to length required with tinner's shears and snaps into the lips of the channel. Channel may be cut to any length with a hacksaw. Sections longer than 10 feet may be coupled together to form a continuous channel.

CurtiStrip Channel and fittings listed by Underwriters' Laboratories, Inc.

CURTISTRIP CHANNEL AND COVER

Channel and cover made of .040"-gauge cold rolled steel, rust-resisting plated. Size 2½" wide x 1⅝" deep.



Cat. No.	Description	Std. Pkg.	Price
1	Channel with cover, 10 ft. lengths	100 ft.	$5.85
1-A	Channel only, 10 ft. lengths	100 ft.	4.25
1-B	Cover only, 10 ft. lengths....	100 ft.	1.85

CURTISTRIP ASSEMBLED

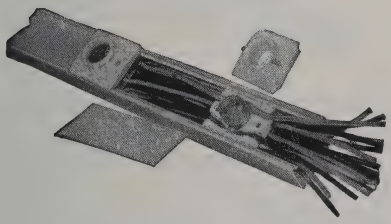
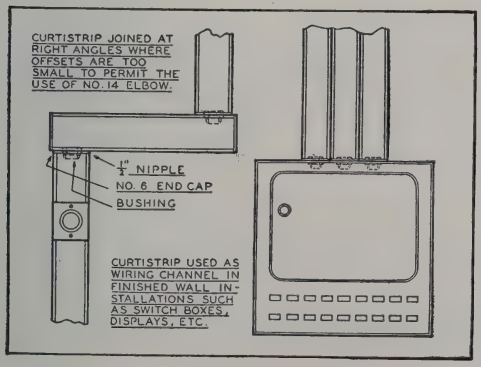


Illustration shows assembled section of CurtiStrip with one socket cover and socket spacer removed. Notice wires are stripped and laid under terminals.


CURTISTRIP JOINED AT RIGHT ANGLES WHERE OFFSETS ARE TOO SMALL TO PERMIT THE USE OF NO. 14 ELBOW.
½" NIPPLE
NO. 6 END CAP
BUSHING
CURTISTRIP USED AS WIRING CHANNEL IN FINISHED WALL INSTALLATIONS SUCH AS SWITCH BOXES, DISPLAYS, ETC.

CURTISTRIP FITTINGS AND ACCESSORIES

DESCRIPTION AND PRICES

No. 5. Porcelain receptacle with shade holder groove **$0.83**

No. 5-A. Special porcelain socket (no shade holder groove) for use with "X-Ray" screw engaging holders **$1.00**

No. 6. End cap to close and finish end of CurtiStrip. Provided with ⅞" knockout for ½" conduit (can be reamed to ¾" for lead-in circuit) **$0.33**

No. 9. Strap for holding CurtiStrip against any flat surface. Overall spread 3⅞". Holes on 3⅜" centers..... **$0.22**

No. 12. Service box. Top removable. Has four 1⅛" knockouts (bottom, end, and two sides) for ¾" conduit. May be reamed up to 1½" **$2.50**

No. 13. Bracket to hang CurtiStrip on pipe or chain hanger. Height top to bottom 3" **$0.78**

No. 14. Elbow adjustable from 70° to 180°. Cover is removable and eliminates fishing of wires. Separable body permits using elbow as splice box..... **$3.75**

No. 16. Coupling used for connecting two pieces of CurtiStrip. Does not reduce size of wireway or interfere with use of CurtiStrip sockets **$0.42**

No. 19. Nipple Attachment (⅜" female thread) **$0.93**

No. 19BX. Attachment for ½" BX or ½" socket (with chase nipple)..... **$0.75**

No. 20. Single receptacle plate. Takes all standard receptacles **$0.68**

No. 21. Switch plate. Takes standard toggle switch **$0.68**

No. 23. Duplex receptacle plate. Takes all standard receptacles **$0.68**

No. 24. Bracket assembly for mounting CurtiStrip out from transom bar or for suspending from ceiling. Includes ⅜" nipple 6¼" long with two locknuts and No. 13 Bracket **$1.85**

No. 31. Plain bushed end cap. For flexible cord connection. Not listed by the Underwriters' Laboratories, Inc..... **$0.55**

No. 46. Extended end cap, extends ⅝" beyond end of channel permitting direct conduit connections **$0.47**

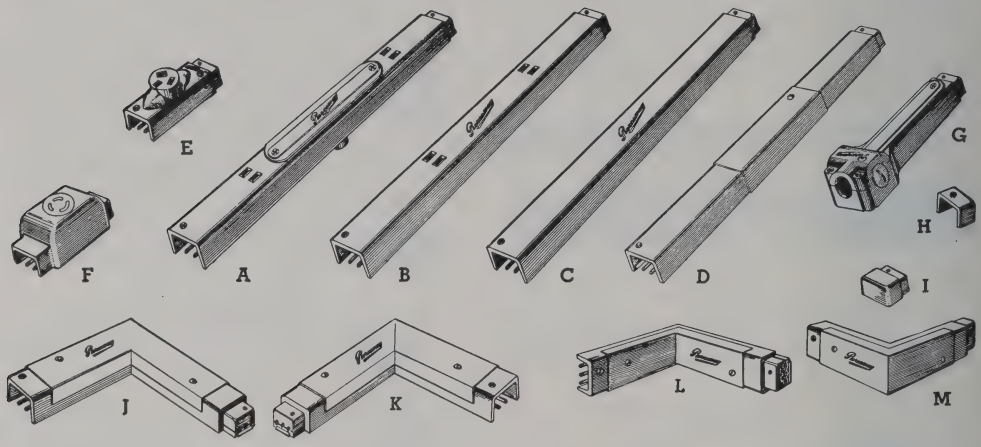
No. 181. Ballast holder strap. Two are needed for each ballast. Can also be used to clamp No. 16 coupling into CurtiStrip without screws **$0.32**

No. 501. Decorative end cap. Cast in modern tailored design, this end cap gives a finished appearance to unit. Always use No. 501 when unit is to be suspended with hangers having angle fittings..... **$1.15**

PLASTIC DUCT Pierceway TRADE MARK WIRING SYSTEMS

The PIERCEWAY LINE Contains all the elements for

COMPLETE ELECTRIC LIGHTING AND PORTABLE POWER TOOL INSTALLATIONS



Specify 2- or 3-wire

Flexibility in installation is an outstanding characteristic of Pierceway Plastic Duct Wiring Systems. Pierceway systems are "custom tailored" to fit the particular requirements of the plant's machine layout and lighting arrangement.

With relatively few individual parts (see cut above), Pierceway systems can be assembled into a large number of types and sizes of industrial electrical circuits. If changes in production become necessary, the Pierceway system can be quickly taken apart and re-assembled to meet any resulting changes in electrical distribution requirements. All parts are 100% salvable.

Pierceway Systems can be provided:

For Voltages of 125; 250.
For All types of 2 or 3 wire circuits
For Single Phase or Three Phase Systems
For A.C. or D.C. Circuits.

In Bus Capacities in Amperes of

10	20	45
15	30	60

With Outlets for 2 or 3 wire cord caps.
With Outlet Capacities of 10; 15; and 20 amperes.
With Standard 2 or 3 wire polarized receptacles.
With Pierceway Twist-Lock or Twist-Tite receptacles.
With adequate grounding facilities.

For Engineering Service and information on systems over 60 amperes, information will be cheerfully furnished on request.

PIERCEWAY PLASTIC DUCT WIRING SYSTEMS ARE LISTED BY UNDERWRITERS LABORATORIES, INC.

FEEDRAIL

Electric Feedrail consists of unit sections of steel-enclosed bus bars which may be bolted together to form any length or shape of system. Polarized throughout.

Movable outlets or trolleys make contact with bus bars and provide a readily movable support for portable tools or other equipment.

Extensively used for high-cycle and universal portable tools, production lines, electric hoists and generally as a convenient and easily installed method of providing light and power outlets.

Electric Feedrail is made in two sizes—Feedrail "100" is the heavier system used for power applications in industrial plants for cranes, hoists and large portable tools.

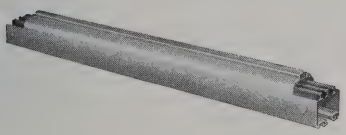
Feedrail "60" is lighter and especially built to fill requirements for a smaller but rugged system for industrial lighting, small tools, sewing machines and cloth cutting machines.

The uses of Feedrail are being increased daily by ingenious plant engineers. Many plants, large and small, have improved the flexibility of their electrical supply with Feedrail systems.

FEEDRAIL "60" TRACK

60 Amp.—250 V.—A.C. or D.C.

STRAIGHT TRACK SECTIONS



10′-0″ Lengths Complete with Bus Bars

Track	Single Phase Cat. No.	List Price	Three Phase Cat. No.	List Price
Plain	FRS-200	$33.00	FRS-100	$38.50
Door	FRS-201	38.50	FRS-101	44.00

5′-0″ Lengths Complete with Bus Bars

Plain	FRS-200–5	$19.25	FRS-100–5	$22.00
Door	FRS-201–5	24.75	FRS-101–5	27.50

NOTE: It is recommended that a minimum of one door section for insertion and removal of trolleys be used with every five sections of plain track.

For sections less than 10′-0″ long, consider fractions of a foot as an extra foot and multiply this length by the foot list price of the corresponding 10′–0″ STRAIGHT and add **$18.70** list.

10′-0″ Lengths Without Bus Bars

Track	Cat. No.	List Price	Cat. No.	List Price
Plain	FRS-130	$22.00	.....	.....
Door	FRS-131	27.50	.....	.....

5′-0″ Lengths Without Bus Bars

Plain	FRS-130–5	$16.50	.....	.....
Door	FRS-131–5	22.00	.....	.....

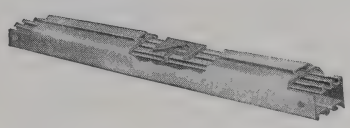
For sections without bus bars less than 10′-0″ long, consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′-0″ STRAIGHT without bus bars and add **$11.00** list.

FEEDRAIL

FEEDRAIL "60" TRACK—Continued

60 Amp.—250 V.—AC or DC

SECTIONALIZING TRACK SECTIONS



10′-0″ Lengths Complete with Bus Bars

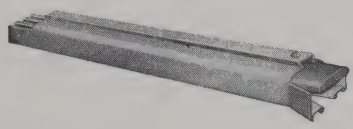
Track	Single Phase Cat. No.	List Price	Three Phase Cat. No.	List Price
Plain	FRS-227	$44.00	FRS-127	$49.50
Door	FRS-228	49.50	FRS-128	55.00

5′-0″ Lengths Complete with Bus Bars

Plain	FRS-227–5	$30.25	FRS-127–5	$33.00
Door	FRS-228–5	35.75	FRS-128–5	38.50

For sections less than 10′-0″ long, consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′-0″ STRAIGHT and add **$29.70** list.

FEEDRAIL "60" TRANSFER TRACK SECTIONS



10′-0″ Lengths Complete with Bus Bars
One Flared End

Track	Single Phase Cat. No.	List Price	Three Phase Cat. No.	List Price
Plain	FRS-225	$60.50	FRS-125	$66.00
Door	FRS-226	66.00	FRS-126	71.50

5′-0″ Lengths Complete with Bus Bars
One Flared End

Plain	FRS-225–5	$46.75	FRS-125–5	$49.50
Door	FRS-226–5	52.25	FRS-126–5	55.00

For sections less than 10′-0″ long, consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′-0″ STRAIGHT and add **$46.20** list for one flared end and **$73.70** list for two flared ends. Add **$16.50** list for each feed box in a transfer section.

10′-0″ Lengths Without Bus Bars
One Flared End

Track	Cat. No.	List Price	Cat. No.	List Price
Plain	FRS-132	$49.50	.....	.....
Door	FRS-133	55.00	.....	.....

5′-0″ Lengths Without Bus Bars
One Flared End

Plain	FRS-132–5	$44.00	.....	.....
Door	FRS-133–5	49.50	.....	.....

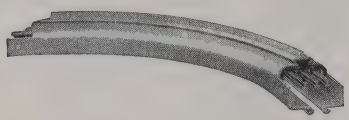
For sections without bus bars less than 10′0″ long, consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′-0″ STRAIGHT without bus bars and add **$16.50** list for one flared end and **$33.00** list for two flared ends.

FEEDRAIL

FEEDRAIL "60" ACCESSORIES

Description	Cat. No.	List Each
Coupling Set	FRS-102	$ 1.35
Center Feed Set	FRS-103	5.50
Sectionalizing Insulator	FRS-104	3.30
Track Hanger Set	FRS-105	.55
End Feed Set	FRS-106	6.60
Dead End Cap	FRS-107	2.75
Messenger Cable Track Hanger Set	FRS-108	1.10
Junction Box with Lugs	FRS-110	7.70
Clevis Support	FR -105	1.65

FEEDRAIL "60" CURVED TRACK SECTIONS



All Curved Sections have 4 Inches of Straight Track additional on each end of Coupling

90° Curves complete with Bus Bars

Radius	Single Phase Cat. No.	Single Phase List Price	Three Phase Cat. No.	Three Phase List Price
2′–6″	FRS-212	$121.00	FRS-112	$121.00
3′–6″	FRS-213	137.50	FRS-113	137.50
4′–6″	FRS-214	154.00	FRS-114	154.00

Curved track sections in other radii and degree of arc than those listed above can be furnished at **$44.00,** list per linear foot. Consider fractions of one foot as an extra foot.

Curved track sections cannot be furnished smaller than 2′–0″ radii. Trolleys listed below must be used with curved track sections.

Curved track adapter couplings listed below must be used when connecting curves to straight track sections or one curved track to another.

CURVED TRACK ADAPTER COUPLINGS

FRS-116—Coupling plates have an opening in one end to fit the curved track and in the other end to fit the smaller straight track. These couplings must be used when joining curved track to straight track .....each **$7.70**

FRS-117—Coupling plates have an opening in each end to fit curved track sections. These couplings must be used when joining curved track to curved track .....each **$7.70**

CURVED SECTION TROLLEYS

20 Amp.—250 V.—AC or DC

Phase	Contact	Description	Cat. No.	List Price
1	Brush	Non-fusible	FRS-94	$35.20
3	Brush	Non-fusible	FRS-84	39.60
1	Brush	Fusible	FRS-96	38.50
3	Brush	Fusible	FRS-86	44.00

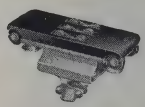
Fuses not included with fusible trolleys.

These trolleys must be used on any part of FEEDRAIL "60" system that includes a curved track section. Where motor propelled hoists are used on runs which include transfer points, two trolleys in tandem must be used to insure continuous current while crossing the transfer points.

FEEDRAIL "60" TROLLEYS

15 Amps.—250 V.—A.C. or D.C.

Fused Type



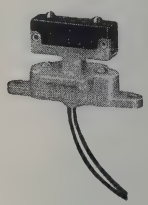
Non-Fused Type

Non-Fusible with ½″ Nipple

Cat. No.	Phase	Type of Contact	List Each
FRS-21	1	Brush	$6.05
FRS-1	3	Brush	6.60
FRS-31	1	Roller	7.15
FRS-11	3	Roller	7.70
Non-Fusible with Cable Clamp			
FRS-22	1	Brush	6.60
FRS-2	3	Brush	7.15
FRS-32	1	Roller	7.70
FRS-12	3	Roller	8.25
Non-Fusible with Tool Hanger			
FRS-23	1	Brush	7.15
FRS-3	3	Brush	7.70
FRS-33	1	Roller	8.25
FRS-13	3	Roller	8.80
Fusible with Cabinet			
FRS-29	1	Brush	25.30
FRS-9	3	Brush	27.50
FRS-39	1	Roller	27.50
FRS-19	3	Roller	29.70

FEEDRAIL "60" PLUG IN JACKS

8 Amps.—Single Phase—250 V.—A.C. or D.C.



No. FRS-40—Non-fusible. Designed for use with standard 4-inch octagonal outlet box. Complete with 6-inch long leads. List Each.....**$3.85**

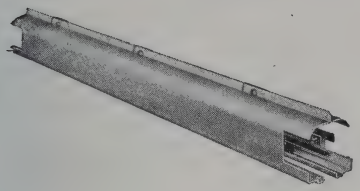
No. FRS-41—Non-fusible. Complete with 2 pole convenience receptacle and lug for supporting lighting fixtures. List Each.....**$7.70**

No. FRS-42—Fusible. Complete with 2 pole convenience receptacle and lug for supporting lighting fixtures. Will accommodate 2—3 AG glass fuses. List Each **$14.30**

No. FRS-111—Fixture hanger designed as an auxiliary weight support in conjunction with "60" Plug-in Jacks. List Each.....**$0.55**

FEEDRAIL "100" TRACK

100 Amp.—250 V. DC—575 V. AC



10′–0″ Lengths complete with Bus Bars

Track	Single Phase Cat. No.	Single Phase List Price	Three Phase Cat. No.	Three Phase List Price
Straight Track				
Plain	FR-200	$ 66.00	FR-100	$ 72.00
Door	FR-201	78.00	FR-101	84.00
Transfer Track—one flared end				
Plain	FR-225	$108.00	FR-125	$114.00
Door	FR-226	120.00	FR-126	126.00
Sectionalizing Track				
Plain	FR-227	$ 90.00	FR-127	$ 96.00
Door	FR-228	102.00	FR-128	108.00

For **STRAIGHT** sections less than 10′–0″ long consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′–0″ STRAIGHT and add **$48.00** list.

For **TRANSFER** sections less than 10′–0″ long, consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′–0″ STRAIGHT and add **$90.00** list for one flared end and **$132.00** list for two flared ends. Add **$24.00** list for each feed box in a transfer section.

For **SECTIONALIZING** sections less than 10′–0″ long, consider fractions of a foot as an extra foot and multiply this length by the per foot list price of the corresponding 10′–0″ STRAIGHT and add **$72.00** list for one sectionalizing end and **$96.00** list for two sectionalizing ends. Add **$24.00** for each feed box in a sectionalizing section.

CURVED TRACK

90° Curves Complete with Bus Bars

Radius	Single Phase Cat. No.	Single Phase List Price	Three Phase Cat. No.	Three Phase List Price
3′–0″	FR-213	$156.00	FR-113	$156.00
4′–6″	FR-214	192.00	FR-114	192.00
5′–6″	FR-211	234.00	FR-111	234.00
6′–6″	FR-221	276.00	FR-121	276.00
7′–6″	FR-212	312.00	FR-112	312.00

Curved track sections in other radii and degree of arc than those listed above can be furnished **at $60.00** list per linear foot. Consider fractions of one foot as an extra foot.
*Short radius "C" type or heavy duty "D" type trolleys are required with curved sections of less than 5′–6 radius.

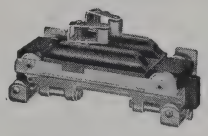
FEEDRAIL "100" ACCESSORIES

	Cat. No.	List
Coupling Plate Set	FR-102	$6.00
Center Feed Box with terminals—Top Conduit Outlet	FR-103	12.00
Clevis Support	FR-105	1.65
End Feed Box with terminals—Top Conduit Outlet	FR-106	12.00
Dead End Cap	FR-107	4.20
End Feed Box with terminals—Reversible Conduit Outlet	FR-108	12.00
End Feed Box with terminals and Cable Grip—Reversible Conduit Outlet	FR-108G	16.50
Transfer Point Coupling Set	FR-124	6.00
Sectionalizing Insulator ½ lb.	FR-129	14.40

NOTE — One Cat. FR-102 Coupling Plate Set is furnished no charge with each section of track.

FEEDRAIL "100" TROLLEYS

TROLLEYS WITHOUT CABINETS

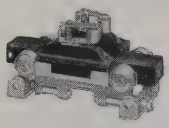


Non-Fusible

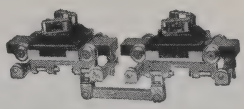
Standard Type

For use with straight and curved track with radius of 5′–6″ or over.

Phase	Volts	Amps.	Contact	Cat. No.	List Price
1	250 DC-575 AC	20	Roller	FR-34	$22.80
1	250 DC-575 AC	30	Brush	FR-90	27.60
3	250 DC-575 AC	20	Roller	FR-24	26.40
3	250 DC-575 AC	30	Brush	FR-80	33.60



Short Radius "C" Type



Heavy Duty "D" Type

Short Radius "C" Type — for use with straight and curved track — Minimum radius 2′–6″.

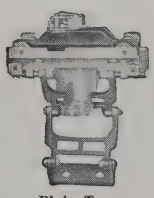
Phase	Volts	Amps.	Contact	Cat. No.	List Price
1	250 DC-575 AC	20	Roller	FR-36	$26.40
1	250 DC-575 AC	30	Brush	FR-91	31.20
3	250 DC-575 AC	20	Roller	FR-26	30.00
3	250 DC-575 AC	30	Brush	FR-81	37.20

Heavy Duty "D" Type—for high amperage on straight and curved track — minimum radius of 2′–6″.

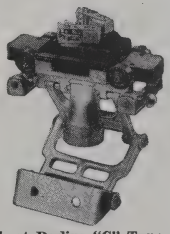
1	250 DC-575 AC	40	Roller	FR-37	$49.20
1	250 DC-575 AC	60	Brush	FR-92	58.80
3	250 DC-575 AC	40	Roller	FR-27	55.20
3	250 DC-575 AC	60	Brush	FR-82	69.60

CRANE AND HOIST TYPE TROLLEYS

Non-fusible—30 Amps.



Plain Type



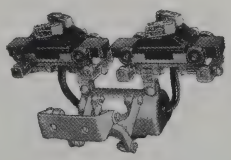
Short Radius "C" Type

Plain Type

Phase	Volts 230 A.C.	440 A.C.	550 A.C.	230 D.C.	Contact	Cat. No.	List Price
DC	.....	.....	.....	3HP	Brush	FR-66	$66.00
1	3 HP	.....	.....	.....	Brush	FR-66	66.00
3	7½HP	15HP	20HP	.....	Brush	FR-6	72.00

Short Radius "C" Type

DC	.....	.....	.....	3HP	Brush	FR-66C	79.20
1	3 HP	.....	.....	.....	Brush	FR-66C	79.20
3	7½HP	15HP	20HP	.....	Brush	FR-6C	85.20



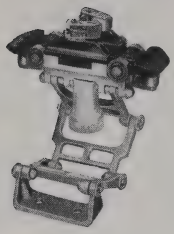
Heavy Duty "D" Type
Non-fusible—60 Amps.

Phase	Volts 230 A.C.	440 A.C.	550 A.C.	230 D.C.	Contact	Cat. No.	List Price
DC	.....	.....	.....	7½HP	Brush	FR-66D	$102.00
1	7½HP	.....	.....	.....	Brush	FR-66D	102.00
3	15HP	30HP	40HP	.....	Brush	FR-6D	108.00

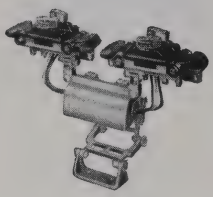
FEEDRAIL "100" TROLLEYS

TRANSFER TYPE TROLLEYS

Non-Fusible—30 Amps.



Plain Type



Heavy Duty Type

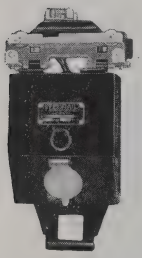
Plain Type

Phase	230 A.C.	440 A.C.	550 A.C.	230 D.C.	Contact	Cat. No.	List Price
DC	.....	.....	.....	1HP	Brush	**FR-64**	**$86.40**
1	3 HP	.....	.....	.....	Brush	**FR-64**	**86.40**
3	7½HP	15HP	20HP	.....	Brush	**FR-74**	**92.40**

Heavy Duty Type

DC	.....	.....	.....	3HP	Brush	**FR-64D**	**122.40**
1	3 HP	.....	.....	.....	Brush	**FR-64D**	**122.40**
3	7½HP	15HP	20HP	.....	Brush	**FR-74D**	**128.40**

Note — "C" or "D" type trolleys must be used with curved track sections of less than 5'–6" radius. All trolleys listed can be furnished in "C" or "D" type by adding the suffix C or D to catalog number of the trolley selected. "D" type trolleys with receptacles or 440 volt fuse blocks have a maximum capacity of 30 amperes. For "C" type add **$13.00** to the list prices. For "D" type add **$36.00** to the list price.



TROLLEYS WITH BEVELLED TYPE CABINETS

Non-Fusible—With Receptacles
Volts: 440 A.C.—250 D.C.

Amps.	Phase	Contact	Cat. No.	List Price
20	1	Roller	**FR-38**	**$54.00**
20	3	Roller	**FR-12**	**57.60**
20	1	Brush	**FR-62**	**58.80**
20	3	Brush	**FR-72**	**64.80**
20	3	Roller	**FR-312**	**60.00**
30	3	Brush	**FR-372**	**67.20**

Fusible—With Receptacles
Volts: 250 A.C.—250 D.C.

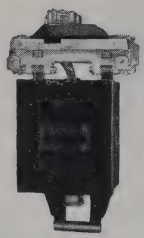
20	1	Roller	**FR-30**	**$62.40**
20	3	Roller	**FR-10**	**68.40**
20	1	Brush	**FR-60**	**67.20**
20	3	Brush	**FR-70**	**75.60**
20	3	Roller	**FR-310**	**70.80**
30	3	Brush	**FR-370**	**78.00**

Motor Starters and Ever-lok Receptacles

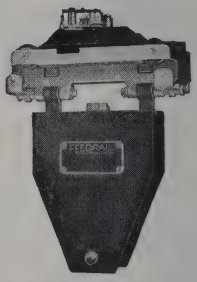
Phase	Volts	H.P.	Contacts	Cat. No.	List Price
3	220 AC	2	Roller}	**FR-1**	**$122.40**
3	440 AC	2	Roller}		

FEEDRAIL "100" TROLLEYS

TROLLEYS WITH BOX AND HANGER TYPE CABINETS



With Box Type Cabinet



With Hanger Type Cabinet

TROLLEYS WITH BOX TYPE CABINETS

Non-Fusible without Receptacles

Amps.	Volts	Phase	Contact	Cat. No.	List Price
20	575 AC-250 DC	1	Roller	**FR-31**	**$39.60**
20	575 AC-250 DC	3	Roller	**FR-41**	**43.20**
30	575 AC-250 DC	1	Brush	**FR-94**	**44.40**
30	575 AC-250 DC	3	Brush	**FR-84**	**50.40**

Fusible—Without Receptacles

20	250 AC-250 DC	1	Roller	***FR-29**	**$43.80**
20	250 AC-250 DC	3	Roller	***FR-9**	**48.00**
20	250 AC-250 DC	1	Roller	**FR-39**	**48.00**
20	250 AC-250 DC	3	Roller	**FR-19**	**54.00**
30	250 AC-250 DC	1	Brush	***FR-96**	**48.60**
30	250 AC-250 DC	3	Brush	***FR-86**	**55.20**
30	250 AC-250 DC	1	Brush	**FR-97**	**52.80**
30	250 AC-250 DC	3	Brush	**FR-87**	**61.20**
20	440 AC-250 DC	1	Roller	***FR-23**	**57.60**
20	440 AC-250 DC	3	Roller	***FR-43**	**69.60**
30	440 AC-250 DC	1	Brush	***FR-98**	**62.40**
30	440 AC-250 DC	3	Brush	***FR-88**	**76.80**

Fusible—With Receptacles

20	440 AC-250 DC	1	Roller	***FR-32**	**$72.00**
20	440 AC-250 DC	3	Roller	***FR-2**	**84.00**
20	440 AC-250 DC	1	Brush	***FR-99**	**76.80**
20	440 AC-250 DC	3	Brush	***FR-89**	**91.20**
20	440 AC-250 DC	3	Roller	***FR-302**	**86.40**
30	440 AC-250 DC	3	Brush	***FR-389**	**93.60**

*These trolleys are equipped with open type fuse blocks. All other fusible trolleys are equipped with Feedrail Corporation dead front fuse blocks. Fuses are not included with fusible Trolleys.

TROLLEYS WITH HANGER TYPE CABINETS

Non-Fusible—Without Receptacles

Amps.	Volts	Phase	Contact	Cat. No.	List Price
20	575 AC-250 DC	1	Roller	**FR-35**	**$34.80**
20	575 AC-250 DC	3	Roller	**FR-5**	**38.40**
30	575 AC-250 DC	1	Brush	**FR-95**	**39.60**
30	575 AC-250 DC	3	Brush	**FR-85**	**45.60**

Non-Fusible—With Ever-lok Receptacles

20	440 AC-250 DC	1	Roller	**FR-33**	**$49.20**
20	440 AC-250 DC	3	Roller	**FR-3**	**52.80**
20	440 AC-250 DC	3	Roller	**FR-303**	**55.20**
20	440 AC-250 DC	1	Brush	**FR-93**	**54.00**
20	440 AC-250 DC	3	Brush	**FR-83**	**60.00**
30	440 AC-250 DC	3	Brush	**FR-383**	**62.40**

wires,
cables,
cords

G-E WIRES AND CABLES

A CONDENSED GUIDE TO THE PROPER SELECTION OF G-E WIRES AND CABLES FOR POWER, LIGHTING, AND CONTROL CIRCUITS

Types and Recommended Applications **Details of Types** **How to Select Conductor Size**

CABLE FOR INDUSTRIALS

For runs from substation to (and between and inside) buildings. For motor, machine-tool, and general power wiring. For all sorts of portable electric equipment, particularly the types used in mines and for construction jobs.

CABLE FOR CENTRAL STATIONS

For nearly all ordinary—and particularly low-voltage—power, lighting, and control circuits, as well as for all kinds of portable electric equipment.

CABLE FOR RAILROADS AND RAILWAYS

For power, lighting, and control wiring in and about yards, shops, and roundhouses. For portable battery-charging sets and air-conditioning machines and other portable apparatus.

CABLE FOR CONTRACTORS

Contractors, too, will find that they can easily handle many jobs with the types of cable described.

Always the Right Type for Each Job

When a buyer seeks a cable for a relatively simple job, he is often confused by the multiplicity of types and sizes. The following information is designed to clarify that situation and to aid in the selection of the proper cable.

In their respective fields, G-E cables are in the top-quality rank. They offer distinct advantages that make for long life, dielectric and mechanical strength, and resistance to destructive agents. They should serve for the majority of insulated-cable applications.

Most popular styles and sizes of G-E cables are carried in warehouse and factory stocks.

Other Types and Sizes

However, cable of many other types, sizes, and ratings can be readily manufactured, and if a problem should arise that is not covered by this information, the services of a G-E cable specialist are obtainable through your Distributor.

WHERE TO USE G-E CABLES

Voltage	How Installed	Installation Conditions	Recommended Type
FOR POWER DISTRIBUTION			
Up to 601 volts	In air, without conduit	Dry	†Three-conductor, Interlocked armor
	Conduit or ducts	Wet or dry	†Single-conductor, Versatol-Geoprene
	Direct burial	Wet	One-, two-, or three-conductor, Versatol-Geoprene
2001 to 5000 volts	In air, without conduit	Dry	†Three-conductor, interlocked armor
	Direct burial	Wet	Three-conductor, Coronol-Geoprene
	Conduit or duct system with no manholes	Wet or dry	‡Single-conductor, Coronol-Geoprene
	§Duct system (with manholes)	Assumed wet	†Three-conductor, varnished-cambric leaded cable
5001 to 15,000 volts	Conduit or ducts	Wet or dry	†Three-conductor, varnished-cambric leaded cable
FOR YARD LIGHTING			
Up to 601 volts	Direct burial	Wet	Single-, two-, or three-conductor, Versatol-Geoprene
0 to 5000 volts series lighting	Direct burial	Wet	Flamenol series-lighting cable
FOR PORTABLE CIRCUITS			
Up to 601 volts	In open air	Wet, or dry exposed to sunlight	Single-, two-, three-, or four-, conductor Geoprene portable cable. For arc welding, superflexible single-conductor, SI-58275. For multiple-conductor portable control circuits, SI-58274.
5000 volts	In open air	Wet, or dry exposed to sunlight, for electric shovels	Three-conductor, shielded Geoprene portable with ground wires, Type SH Class D, SI-58239.

§In a duct or conduit system where manholes make the cables accessible to personnel, cables with a grounded metallic covering are strongly recommended above 600 volts. A positive ground protects personnel because it prevents dangerous electrostatic voltage building up and provides a fault path in case the cable has been damaged or has deteriorated to such an extent that personnel could contact full voltage. Therefore, we recommend varnished cambric leaded cable for this application.

†These cables meet National Electrical Code requirements. For example: Versatol-Geoprene can be used as RH wire at 75C or RW wire at 60C and type USE for 60C operation.

‡For this application if NE Code requirements apply, varnished-cambric leaded cable may be used.

WHAT G-E CABLES TO USE

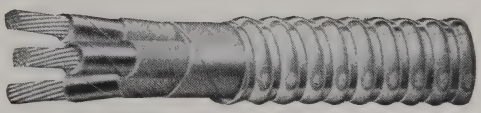
INTERLOCKED-ARMOR

Interlocked-armor cable; for 600 volts, SI-12345; for 5000 volts, SI-12347.

Listed by Underwriters' Laboratories, Inc., as Type ACV

Interlocked-armor cable, 3-conductor—with No. 1799—is a low-cost general-purpose power wiring cable that does not require the use of conduit. G-E positively interlocked-armor provides proper protection to the cable, which can be installed in racks along the walls. Standard conduit fittings and boxes are used. As compared with the usual conduit system, this cable results in great savings because of reduced material and labor costs.

LOW-COST ITEM



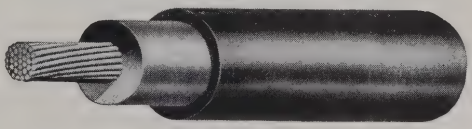
VERSATOL-GEOPRENE AND CORONOL-GEOPRENE

for 600 Volts SI-58006

for 5000 Volts SI-58008

This nonmetallic cable is applicable to a variety of uses. Both the insulation and jacket are designed for long life. Versatol and Coronol are heat-resistant and superaging, and the Coronol is ozone-resistant. Geoprene is tough, oil-, acid-, alkali-, and sunlight-resistant. Results: a cable that can be buried directly in the ground, pulled into conduit or ducts, or exposed to air and sunlight.

VERSATILE, LONG-LIFE



NO. 1799 VARNISHED-CAMBRIC

Varnished-cambric-insulated, leaded cable—SI-12350

Listed by Underwriters' Laboratories, Inc.

No. 1799 varnished-cambric insulation combines high dielectric strength with heat resistance. This insulation has an outstanding record for reliability as a result of years of successful operation. Cable insulated with No. 1799 can be operated at a conductor temperature of 85 C up to 5000 volts. This rating is reduced slightly for higher voltages. This means savings in copper, particularly where heavy currents are involved. These characteristics make No. 1799 particularly suited for important power-cable feeders. Cable insulated with No. 1799 can be furnished with braided or leaded finish in single- or three-conductor cables.

HIGH-TEMPERATURE, HIGH-VOLTAGE

GEOPRENE PORTABLE

Geoprene portable cable, Type W—SI-58271

Geoprene portable cables are tough and light in weight. The tough jacket has over twice the tear resistance of the old tellurium jackets and is sunlight-resistant. These properties make Geoprene cables easy to handle. They stay tough, clean, and smooth. Under severe service conditions, they give years of low-cost, reliable service.

Single-conductor cables are used for reel locomotives and arc welding.

Two-, three-, and four- conductor cables are used for mining machines, portable tools, portable airconditioning machines, portable welding sets, electric shovels, and dredges. Multiple-conductor six-to-24-conductors are used for portable control circuits. In fact, Geoprene portable cables are suitable for all portable, electrically driven machinery.

TOUGH, SUNLIGHT-RESISTANT AND FLAME-RESISTANT (P-108 Approval)

WHAT G-E CABLES TO USE

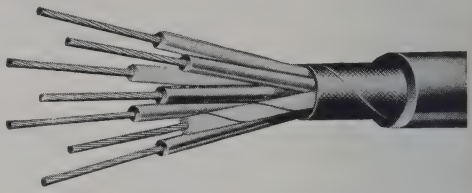
Miscellaneous Circuits

FOR

Any multiple-conductor, 600-volt control circuit

USE: FLAMENOL CONTROL CABLE

SI-58173



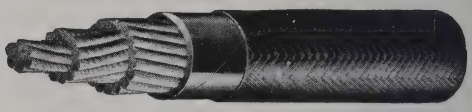
This versatile cable is the answer to almost all control-cable problems. The conductors are permanently identified. This cable can be pulled into conduits or ducts, buried directly in the ground, or installed in the open air. It is furnished in two sizes, 19/22 and 19/25, from two up to, and including, twelve conductors.

FOR

Flexible apparatus leads

USE: No. 1799 VARNISHED-CAMBRIC APPARATUS LEADS

With Glyptal treated braid, SI-12240C
With flame- and moisture-resistant braid, SI-12240B



Apparatus cable is used as brush-holder leads; connections to motors, generators, and circuit breakers; and for use as transformer leads under special conditions.

FOR

Leads to Fractional-hp Motors, coils, transformers, ballasts, etc.

USE: SMALL-MOTOR LEADS

The two types listed below meet almost any requirement for leads for small equipment.

Type D—Geoprene Cable (no braid)—SI-58299
Type E—Geoprene Cable (braided)—SI-58296

These appliance wires are listed by Underwriters' Laboratories for operation within appliances at 90C dry and for 60C operation in oil.

FOR

Machine tools, battery leads, switchboards, pickling vats, any 600-volt severe application where exposed to oils, acids, or alkalies.

USE: FLAMENOL SI-58175

Flamenol is flame- and moisture-resistant and is unaffected by oils and most acids and alkalies. It is practically non-aging and is mechanically so tough that no further finish is required. It can be furnished in seven attractive colors that make circuit tracing easy. Flamenol comes in four different types of single-conductor cables.

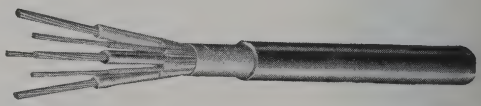
G-E Style FL Flamenol, in addition to many other uses, is listed by Underwriters' Laboratories, Inc., for the following:

1. Use within appliances (machines) where exposed to air and to temperatures not exceeding 80C.
2. Use within appliances (machines) where exposed to oil and to temperatures not exceeding 60C.

FOR

Leads from plug-in-type bus to machines, 600 volts and less

USE: FLAMENOL BUS-DROP
With ground wires, SI-58179



An oil-, acid-, alkali-, and flame-resistant cable, ideal for this application. The use of this cable from overhead low-voltage plug-in-type distribution buses to machines-tool units results in great savings. Flamenol bus-drop cable can be easily and quickly installed without the use of conduit and will provide a great degree of flexibility.

G-E CABLE—SELECTION DATA

Basic Considerations

Whenever it is necessary to select a cable for a particular application, three questions will arise.

First. What type and size of cable is best suited to the job from the technical standpoint?

Second. If several types of cable are acceptable from the technical standpoint, which type is preferable from the point of view of existing facilities for installation?

Third. Assuming that several types of cable are satisfactory for the installation, which type of cable will give the most economical installation?

This discussion deals largely with answers to the first question. Answers to the second and third can be touched upon only briefly.

TECHNICAL CONSIDERATIONS

The following factors influence the choice of a cable from the technical standpoint:

1. Voltage
2. Current of kva loading
3. Heating conditions, that is, ambient temperature, proximity of other cables, or other adjacent sources of heat, thermal conductivity of soil, etc.
4. Voltage regulation permissible.
5. Character of installation, that is, whether the cable is to be underground, aerial, or submarine
6. Special conditions, such as the presence of corrosive agents.

Voltage

The voltage at which the cable is to operate determines the type of insulation, the thickness of insulation, and the extreme minimum of conductor size that can be used for very small loads. It is necessary to know whether the neutral of the system is grounded, and, if so, the magnitude of the impedance, if any, through which it is grounded.

Usually these data are readily available, except where an economical study is to be made to determine the most economical voltage for an important transmission circuit.

For the usual applications, Table 1 (shown on a following page), will serve as a rough guide in selecting the type of insulation for various voltages.

Current or KVA Loading

The current or kva loading is the primary consideration in determining conductor size, either from the heating or the regulation standpoint. The current load, the kva load, or the kilowatt load and power-factor must be known before conductor size can be determined. For underground cable, the load factor should also be known.

Cables in air are usually rated on the basis of the maximum load which they are to carry. Usually the heating on a duty cycle is about the same as the continuous-load heating for such cables. In special cases, involving large cables or unusual duty cycles, it may be desirable to take the duty cycle into account in order to keep the conductor size down to a reasonable value.

External Thermal Conditions

The external thermal conditions play an important part in determining the temperature rise of a cable. Some of the more important of these conditions are listed below:

1. Earth or air ambient temperature.
2. Presence of artificial cooling, if any
3. Number of cables in a duct bank
4. Proximity of other cables, duct runs, or other external sources of heat
5. Thermal conductivity of the soil of other surrounding medium
6. Depth of burying, for buried cable
7. Character of surrounding medium
8. Presence of sheath losses on single-conductor cables.

Voltage Regulations

Cable size is sometimes governed by voltage regulation rather than by heating. In general, the conductor size on long, low-voltage lines is governed by regulation, and on short, high-voltage lines by heating. In any doubtful case, the current rating should be calculated both ways, and the lower rating used. The character of the installation affects both the current-carrying capacity and the type of finish to be selected.

Special Conditions

There are so many possible "special conditions" that it would be impracticable to enumerate them all. Some common examples are:

1. The presence of boilers, steam pipes, or other large sources of heat that give rise to very high temperature
2. The effect of magnetic materials such as pipes or structural members in close proximity to large cables carrying heavy current
3. The presence of corrosive reagents in the soil or other locations in which the cable is to be installed.
4. The interference that may occur in telephone circuits because of adjacent power cables.

All special conditions should be carefully investigated and the advice of competent engineers obtained before going ahead with an important cable installation.

Facilities Available for Installation

The facilities for installation often govern the selection of the type of cable. The most common questions that arise are:

1. Can the cable be handled by the splicing crew available?
2. Will it go into an existing duct installation?
3. Can it be bent and trained in the space available?

Economic Considerations

The economic problem involved in the selection of a cable is rather a complicated one and is somewhat outside the scope of this discussion. The relative costs of the various types of cable do not remain the same; furthermore, a cable line is often only a part of the larger project involving rotating machinery, transformers, switch gear, and other apparatus; and the cheapest type of cable installation may not give the best possible over-all economy. The only way to make a satisfactory economic study is to obtain the necessary price figures at the time when the study is required and to compare any alternative schemes on the basis of such figures.

G-E CABLE—SELECTION DATA

Basic Considerations (Con't.)

There are, however, some general considerations affecting cable economics which should not be lost sight of when preparing an economic study. It is proposed to enumerate some of these points briefly.

Estimates of the investment cost of a cable line should be obtained. This cost includes:

1. The cost of the cable itself, which is usually from 50 to 85% of the total.
2. The cost of the accessories, such as joints, terminals, and reservoirs. This is usually from 5 to 25% of the total cost.
3. The cost of auxiliary structures, such as ducts, manholes, pole lines, terminal structures, cable racks, and fireproofing. This is usually from 5 to 35% of the total.
4. The cost of installation, which is usually from 2 to 15% of the total.

Investigation shows that the cost per kva decreases as the load increases. However, in order to take advantage of this effect it is necessary to select the most economical voltage for any given load. If some particular voltage is selected, it is found that there is one particular load for which the cost is minimum. At smaller loads and at larger loads the cost will be greater than at this optimum load. If the load is smaller than this optimum load, it may be advisable on an important circuit to find out whether it is not more economical to use a lower voltage; and if the load is larger than the optimum load, it is well to investigate whether a higher voltage would not be more economical. Of course, if one is restricted by system voltage, transformer facilities, or other factors to some particular voltage, then it is not usually practical to modify the voltage in order to obtain the most economical cable line.

If the voltage and load are both fixed, then there is always a most economical conductor size for this condition. However, the curve of cost against conductor size is generally rather flat, and the cost of the line is not seriously increased by cutting in an oversize cable. Where overload capacity is required or where possible future expansion is anticipated, the use of an oversize cable is always a wise measure.

A cable is usually selected on a basis of economy when there are several types of cable technically suitable for a particular application. Usually each type of cable has certain technical advantages. Some types are more satisfactory than others from the standpoint of safety to life and property, continuity of service, convenience of installation, accessibility for repairs, and appearance (where this is a factor of any moment). These considerations must be weighed against the relative costs of the various systems. If this is done, the best cable for the particular application can be selected.

STEPS IN SELECTING CABLE

The first step is to decide on the insulation. The characteristics required of the insulation will depend on voltage, temperature conditions, load, facilities available for installation, and economic considerations.

The second step is to select the size, type, and number of conductors. This will depend on the current-carrying capacity, permissible voltage regulation, type of insulation, temperature conditions, and economic considerations.

Then the next step is the selection of the finish of the cable. This will depend on the insulation used, the cable dimensions, the external conditions surrounding the cable, and on economic considerations. In some installations, the choice of finish will affect the conductor size and the size will have to be checked to be sure that it is large enough for satisfactory operation under existing conditions.

Insulations and Shielding

PROPERTIES OF INSULATION

An ideal insulation for cable should have the following properties.

Stability and Long Life

If the insulation is carefully manufactured and is of good quality, long life can be obtained by operating the cable at temperatures and voltage stresses which do not cause instability in the physical or electrical properties of the insulation, and by taking such precautions as may be necessary to insure that the insulation is not exposed to other influences that may cause its deterioration.

Long-Time High Dielectric Strength

An insulation of low dielectric strength must be much heavier for a given voltage than an insulation of high dielectric strength. The latter type of insulation therefore means a saving in the size, weight and the cost of the finished cable. At very high voltages the use of an insulation of the highest dielectric strength is essential, for if such an insulation is not used, the cable becomes entirely impractical, especially in view of the fact that an increase in insulation thickness does not warrant a proportionate increase in voltage rating at extremely high voltages.

Short-time dielectric strength is not always a measure of long-time dielectric strength, since the characteristics of insulations vary a good deal in this respect. Long-time dielectric strength is, of course, the proper criterion when selecting the operating voltage stress in a given type of cable.

Low Dielectric Loss

A high dielectric loss means a loss of power which may materially increase the annual operating cost of the cable. It also means a decrease in current-carrying capacity, which may be serious, especially at the higher voltages. At the highest voltages, these considerations among others make it imperative to use the insulation with the lowest dielectric loss.

G-E CABLE

Insulations and Shielding (Con't.)

PROPERTIES OF INSULATION (Con't.)

Resistance to Corona and Ionization

Certain types of insulation, while they possess good dielectric strength under ideal conditions, nevertheless deteriorate rapidly if exposed to corona and ionization and therefore must be operated at lower voltage stresses in service in order to counteract these influences. Where such an insulation is used, proper precautions must be taken to keep the voltage stresses to a reasonable value and to insure by proper shielding or other means that corona and ionization are reduced to the minimum.

Resistance to High Temperature

This quality affects directly the current-carrying capacity of the cable. The higher the temperature the insulation can withstand, the more current the cable can carry, other factors being equal. For work involving heavy loads and high ambient temperatures, insulation with good heat-resistant properties should be selected.

Mechanical Flexibility

Cables are wound on reels previous to installation. Furthermore, during the process of installation, cables are frequently bent and twisted to a considerable degree; and in service, too, they are subjected to a certain amount of bending. Finally, in certain special applications the cable must be unreeled and rereeled frequently during its life. All these things make it essential that the cable should have a certain degree of flexibility and that the insulation should be able to withstand the necessary bending and twisting in service without material damage.

Resistance to Moisture

It is desirable that an insulation should be highly moisture-resistant, since otherwise it is necessary to furnish it with a special protective moisture-resistant finish which adds to the cost of the cable and also to its stiffness and sometimes to its electrical losses. Insulations vary widely in this respect. In general, only the rubber insulations can be regarded as moisture-resistant, and special precautions sometimes have to be taken even with some of these insulations.

Recommended Voltage and Temperature Limits for the Various Types of Insulated Cables

Class	Shielding (If Any)	Finish	Single or Multiple Conductor	Voltage Range Recommended Maximum	Voltage Range Recommended Minimum	Voltage Range Can Furnish Maximum	Maximum Operating Temp. Deg. C
VARNISHED-CAMBRIC							
Standard Varnished-cambric	Nonshielded	Leaded	Single	26,000		26,000	
	Nonshielded	† Braided	Single	7,500		7,500	
	Shielded	† Braided	Single	26,000	7,500	26,000	90 C-1½ E
	Shielded	Leaded	Multiple	26,000	10,000	26,000	85 C max.
	Shielded	† Braided	Multiple	26,000	7,500	26,000	
	Belted	Leaded	Multiple	10,000		17,000	
	Belted	† Braided	Multiple	7,500		7,500	
ASBESTOS							
Asbestos Varnished-cambric	Nonshielded	Leaded	Single	5,000		5,000	110 C
	Nonshielded	† Braided	Single	5,000		5,000	‡90 or 110 C
	Nonshielded	Leaded	Multiple	5,000		5,000	110 C
	Nonshielded	† Braided	Multiple	5,000		5,000	‡90 or 110 C
Asbestos	Nonshielded	† Braided	Single	440		440	125 C
RUBBER							
VERSATOL* Cables	Nonshielded	Leaded or Nonleaded	Single or Multiple	600		2,000	75 C up to 2000 V
SUPER CORONOL* Cables	Shielded	Nonleaded	Single or Multiple	15,000		15,000	Coronol 80 C up to 15,000 V
	Shielded	Leaded	Single or Multiple	15,000		15,000	
	Nonshielded	Leaded	Multiple	8,000 Y 6,000 △		8,000 Y 6,000 △	
	Nonshielded	Nonleaded	Single or Multiple	Refer Dist.		Refer Dist.	
NEC Compound	Nonshielded	Leaded or Braided	Single or Multiple	600		600	60 C

† Not mounted on insulators.

‡ 90 C with flame retardant cotton braid, 110 C with asbestos braid.

* Reg. Trade-mark of General Electric Company.

G-E CABLE

Simplified Selection of Conductor Size

On the following pages is presented a simple, easy method of obtaining the conductor size of G-E insulated cable for power and lighting circuits up to and including 600 volts and for sizes up to 500,000 circular mils.

Of course, before the conductor size can be selected, the type of cable must be known with some degree of certainty. A study of the conditions that the cable will have to meet, plus a study of the types available and their recommended applications, may bring to mind immediately the fact that there is one type — and only one type — that is the right one for the particular job. From then on the problem of selecting conductor size is easy. Sometimes, however, two or three types of cable may seem equally suitable; the choice then depends on which is the most economical.

Usually the task of calculating the proper conductor sizes for a given set of loading and operating conditions is a long and difficult one. It is for this reason that these simplified data are published —that is, to help in choosing the proper size quickly and easily, and to have the selection take local conditions into account.

The information needed to determine the proper size is:

1. Rating of apparatus to be connected.

2. Maximum ambient air temperature.†

3. Distance from source of supply to apparatus to be connected.

4. Regulation (voltage drop) desired.

The step-by-step method of selecting conductor size is as follows:

METHOD AND EXPLANATION

Step 1

Determine the Current to be Carried

The current to be carried is usually the rated current of the connected apparatus, and can often be obtained from the nameplate of the apparatus. Otherwise, it may be obtained from Tables 1 and 2 (shown on following page).

For example, assume that a 40-kva, 3-phase, 220-volt resistance load is to be installed. From Table 1, column "3-phase," we find that the current per conductor (or phase) is 40 times 2.63, or 105 amperes.

Similarly, if a 3-phase, 440-volt, 100-hp motor is to be installed, from Table 2 we find that the current per conductor, or phase, is 123 amperes.

Step 2

Select the Proper Conductor Size from Table 3 or 4

After determining the current to be carried, we consult Table 3 or Table 4 (depending on the method of installation used).

Note: Tables 3 and 4 have been prepared from the 1947 edition of the National Electrical Code.

If, for example, the 105 amperes obtained from Table 1 (see above) are to be carried in three single-conductor cables in conduit, in an average location where the maximum ambient air temperature is 104 F (40 C), we learn from Table 4 that a No. 1 Awg conductor will be required in a Versatol*- Geoprene cable. If insulated with No. 1799 varnished-cambric, a No. 2 Awg will be needed.

Section 4312 of the National Electrical Code states: "Branch-circuit conductors supplying an individual motor shall have a carrying capacity not less than 125 per cent of the motor full-load current . . . For conductors supplying two or more motors, or motors used for shorttime intermittent, periodic or varying duty, refer to the National Electrical Code."

Step 3

Check Regulation—Voltage Drop

Now that we have found the conductor sufficiently large to carry the current, we must check to see whether the voltage drop at rated current will be satisfactory. Because 2% voltage drop has generally been found to be an economical figure, Table 7 has been calculated on that basis. The National Electrical Code requires that the voltage drop between the source of supply and the final distribution point shall not be more than 3% for power loads and not more than 1% for lighting loads or for combined power and lighting loads.

Assume that we have selected a No. 1 Awg Versatol-Geoprene cable to carry the 105 amperes to the 40-kva load, and that the load is 100 feet from the source of supply.

The lower left-hand portion of Table 7, 220 Volts, tells us that a No. 2 Awg cable is required to maintain the voltage drop at not more than two per cent. Therefore, the selection of No. 1 is satisfactory. It can be seen that the voltage drop would also have been satisfactory if we had selected No. 1799 varnished cambric.

When checking conductor sizes for voltage drop, we can go beyond the range of currents and distances listed in Table 7. When we do, Chart 1, 2, 3, or 4 should be used. (Chart 3 can be used for 3-conductor, 600-volt, magnetic-armored cables. Chart 4 can be used for three-conductor, 600-volt, Versatol Geoprene cables buried in the ground, or 600-volt Geoprene portable cables when not used in close proximity to magnetic structures.)

Table 5 should be used only for checking voltage drop on direct-current circuits, whether the cable is installed in conduit or as open wiring.

On alternating-current circuits where the cable is installed as single conductors in free air, or as single conductors in individual ducts or buried directly in the ground, the voltage drop depends upon the spacing, arrangement, etc., of the conductors. The variations are so numerous that it is impractical to prepare a simplified voltage-drop table. Therefore, for a-c circuits installed as single conductors in free air, ask for engineering recommendations.

† Ambient air temperature is the temperature of the air surrounding the conduit in question.

* Reg. Trade-mark of General Electric Company.

G-E CABLE
SIMPLIFIED SELECTION OF CONDUCTOR SIZE

Table 1
AMPERES FOR 1 KVA

Voltage	Single-phase or D-c	2-phase	3-phase
110	9.09	4.55	5.25
220	4.55	2.27	2.63
440	2.27	1.14	1.31
550	1.82	.909	1.05
2300	.435	.217	.250
4150	.241	.121	.139
6600	.152	.0758	.0875
11000	.0909	.0455	.0525
13200	.0758	.0379	.0437

Multiply kva by power factor to obtain kw.

GROUP CORRECTION FACTORS

The current ratings contained in Tables 3 and 4 assume one isolated, loaded cable or conduit. Two or more equally loaded cables or conduits closely grouped require reduction in current rating, because of mutual heating, as follows:

These correction factors apply only when spacing between cables or conduit surfaces is not greater than cable or conduit diameter, or less than one quarter of cable or conduit diameter.

Table 2
MOTOR CURRENTS

Hp. Rating of Motor	Three-phase Induction Motors 220 Volts Full-load Amperes	Three-phase Induction Motors 440 Volts Full-load Amperes
1	3.5	1.8
1½	5	2.5
2	6.5	3.3
3	9	4.5
5	15	7.5
7½	22	11
10	27	14
15	40	20
20	52	26
25	64	32
30	78	39
40	104	52
50	125	63
60	150	75
75	185	93
100	246	123
125	310	155
150	360	180
200	480	240

Hp. Rating of Motor	Single-phase Induction Motors 110 Volts Full-load Amperes	Single-phase Induction Motors 220 Volts Full-load Amperes
½	7.4	3.7
¾	10.2	5.1
1	13	6.5
1½	18.4	9.2
2	24	12
3	34	17
5	56	28
7½	80	40
10	100	50

	Direct-Current Motors 115 Volts	Direct-Current Motors 230 Volts
1	8.6	4.3
1½	12.6	6.3
2	16.4	8.2
3	24	12
5	40	20
7½	58	29
10	76	38
15	112	56
20	148	74

Number of Conduits, Horizontally → Vertically ↓	Group Correction Factors 1	2	3	4	5	6
1	1.00	.94	.91	.88	.87	.86
2	.92	.87	.84	.81	.80	.79
3	.85	.81	.78	.76	.75	.74
4	.82	.78	.74	.73	.72	.72
5	.80	.76	.72	.71	.70	.70
6	.79	.75	.71	.70	.69	.68

Table 3
N.E. CODE RATINGS IN AMPERES IN FREE AIR FOR COMMONLY ENCOUNTERED AMBIENT AIR TEMPERATURES OF 104 F (40 C)

Size, Awg. 1000 Cir. Mils.	SINGLE-CONDUCTOR Flamenol* Temp. 60 C 0-600 V	§Versatol-* Geoprene Temp. 75 C 0-600 V	Coronol-* Geoprene Temp. 80 C 5000 V	Var. Cam. Temp. 85 C 0-5000 V	THREE-CONDUCTOR Flamenol Temp. 60 C 0-600 V	Versatol-Geoprene Temp. 75 C 0-600 V	Coronol-Geoprene Temp. 80 C 5000 V	Var. Cam. Temp. 85 C 0-5000 V
14	16	18	..	27	12	13	..	23
12	20	22	..	36	16	18	..	27
10	33	35	..	50	25	26	..	36
8	45	57	60	63	33	40	42	45
6	66	84	88	90	45	57	60	63
4	86	110	116	121	57	75	79	81
2	115	150	157	162	78	101	106	108
1	135	172	180	189	90	114	120	126
0	160	202	212	221	103	132	139	140
00	185	233	245	257	119	154	162	166
000	213	278	286	297	135	176	185	189
0000	246	317	333	347	160	202	212	212
250	279	356	374	382	176	224	235	243
350	344	445	467	477	213	273	287	292
500	422	545	571	594	262	334	350	364
750	537	690	725	760	328	418	440	450
1000	676	828	870	900	373	479		527

Correction Factors for Various Ambient Temperatures

F	C								
59	15	1.50	1.31	1.28	1.25	1.50	1.31	1.28	1.25
68	20	1.41	1.25	1.22	1.20	1.41	1.25	1.22	1.20
‡77	25	1.32	1.20	1.17	1.16	1.32	1.20	1.17	1.16
86	30	1.22	1.13	1.12	1.11	1.22	1.13	1.12	1.11
95	35	1.12	1.06	1.05	1.05	1.12	1.06	1.05	1.05
104	40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
113	45	.86	.93	.93	.94	.86	.93	.93	.94
122	50	.71	.85	.86	.88	.71	.85	.86	.88
131	55	.50	.76	.79	.82	.50	.76	.79	.82
140	60	.....	.66	.71	.74	.....	.66	.71	.74

‡Ambient air temperature commonly used in underground mines.
§Versatol Geoprene when used as RW cable is rated 60 C. Use Flamenol ratings listed above for such cases.
All of the above current-carrying capacities are based on one isolated cable per group.

G-E CABLE

SIMPLIFIED SELECTION OF CONDUCTOR SIZE

CURRENT-CARRYING CAPACITIES IN AMPERES IN CONDUIT AND BURIED IN EARTH AT NORMAL AMBIENT AIR TEMPERATURES

Table 4

Size Awg, or MCM	IN CONDUIT — Three Single-conductor Cables or One Three-conductor Cable per Conduit, 104 F (40 C) Ambient Air Temp§					BURIED IN EARTH — One Three-conductor Cable or Three Single-conductor Cables Grouped Together, 68 F (20 C) Ambient Air Temp§		
	Flamenol* Temp 60 C 0-600 V	‡Versatol-* Geoprene Temp 75 C 0-600 V	Coronol-* Geoprene Temp 80 C 5000 V	Var. Cam., Temp 85 C 0-5000 V	Var. Cam. Shielded Temp 77 C 15,000 V	Flamenol Temp 60 C 0-600 V	Versatol-Geoprene Temp 75 C 0-600 V	Coronol-Geoprene Temp 80 C 5000 V
14	12	13	20	23	.....	.....	.....	.....
12	16	18	25	27	.....	.....	.....	.....
10	25	26	35	36	.....	.....	.....	.....
8	33	40	46	45	46	58	67	75
6	45	57	60	63	60	73	84	100
4	57	75	80	81	79	97	109	127
2	78	101	107	108	101	124	142	158
1	90	114	122	126	115	141	159	179
0	103	132	141	140	129	160	181	204
00	119	154	161	166	147	182	208	229
000	135	176	186	189	167	204	233	258
0000	160	202	215	212	190	233	265	292
250	176	224	239	243	210	254	290	316
350	213	273	290	292	252	302	346	375
500	262	334	357	364	306	360	412	447
750	328	418	443	450	371	442	504	546
1000	373	480	509	527	.....	.....	.....	.....

§Correction Factors for Various Ambient Temperatures

F	C							
59	15	1.50	1.31	1.28	1.25	1.33	1.06	1.04	1.04
68	20	1.41	1.25	1.22	1.20	1.27	1.00	1.00	1.00
77	25	1.32	1.20	1.17	1.16	1.21	.94	.95	.95
86	30	1.22	1.13	1.12	1.11	1.14	.87	.90	.91
95	35	1.12	1.06	1.05	1.05	1.07	.79	.85	.87
104	40	1.00	1.00	1.00	1.00	1.00	.71	.80	.82
113	45	.86	.93	.93	.94	.92	.61	.74	.76
122	50	.71	.85	.86	.88	.83	.50	.67	.71
131	55	.50	.76	.79	.82	.....	.....	.....	.....
140	60	.....	.66	.71	.74	.....	.....	.....	

‡Versatol-Geoprene when used as RW wire is rated at 60 C. use Flamenol ratings listed above for such cases.

MORE THAN THREE CONDUCTORS IN CONDUIT OR CABLE

For a larger number of conductors per conduit than listed above, the current-carrying capacity can be obtain as follows:

Number of conductors, 4 to 6—multiply values by 0.80.

Number of conductors, 7 to 9—multiply values by 0.70.

CURRENT-CARRYING CAPACITIES FOR CABLES DUCTS

For rough estimates use section for Cables Buried in Earth of Table 4 and multiply by factors listed below. The results will be on the safe side if there are not more than 3 cables per duct bank.

Type of Cable	Multiplier	
FLAMENOL	.75	
VERSATOL-GEOPRENE	.75	
CORONOL-GEOPRENE	.75	
Varnished—Cambric (0-5000 V.)	.70	Times values listed for VERSATOL-GEOPRENE
Varnished—Cambric (15000 V.)	.80	Times values listed for CORONAL-GEOPRENE

Correction factors given in table above for various ambient temperatures will apply.

*Reg. Trade-mark of General Electric Company.

G-E CABLE

SIMPLIFIED SELECTION OF CONDUCTOR SIZE

Table 5

RELATION BETWEEN LOAD, DISTANCE, VOLTAGE DROP, AND SIZE OF CONDUCTOR

110-VOLT AND 220-VOLT, TWO-WIRE, D-C CIRCUITS

Size, Awg		Per Cent Voltage Drop								
110 Volts	220 Volts	1	1.5	*2	3	4	5	6	8	10
		Ampere-feet (Amperes × Distance)								
	0000	18,390	27,590	36,780	55,180	73,675	91,970	110,360	147,150	183 940
	000	14,565	21,850	29,136	43,705	58,275	72,845	87,410	116,550	145,690
	00	11,550	17,330	23,105	34,660	46,215	57,770	69,820	92,430	115,540
0000	0	9165	13,745	18,330	27,495	36,660	45,830	54,995	73,325	91,660
000	1	7235	10,850	14,470	21,705	28 940	36,180	43,415	57,885	72,360
00	2	5755	8635	11,515	17 275	23,035	28,795	34,550	46,070	57,590
1	4	3615	5425	7235	10,850	14,470	18,090	21,705	25,940	36,180
2	.....	2875	4315	5755	8635	11,515	14,395	17,290	23,030	28,990
	6	2280	3420	4560	6845	9125	11,410	13,690	18,255	22,820
4	.....	1815	2720	3630	5445	7260	9075	10,890	14,520	18,150
	8	1435	2155	2870	4310	5745	7185	8620	11,495	14,370
6	.....	1140	1710	2280	3420	4500	5705	6845	9125	11 410
	10	902	1350	1800	2705	3605	4510	5410	7215	9020
8	.....	718	1075	1435	2150	2870	3590	4305	5740	7180
	12	567	850	1130	1700	2265	2835	3400	4535	5670
10	.....	451	676	902	1350	1800	2255	2705	3605	4510
	14	357	535	714	1070	1425	1785	2140	2855	3570
12	.....	283	424	566	849	1130	1415	1675	2260	2830
14	.....	178	267	356	534	712	890	1065	1420	1780

* Two per cent loss generally used for best utilization of power. The values are based on a copper temperature of 70 C.

Table 6

CONDUIT SIZE (IN INCHES)

For Nonleaded Cable

Size, Awg or 1000 Cir Mils	Number of 600-volt Conductors in Conduit								
	1	2	3	4	5	6	7	8	9
	Versatol-Geoprene, Varnished-cambric, Flamenol								
14	½	½	½	½	¾	¾	1	1	1
12	½	½	½	¾	¾	1	1	1	1¼
10	½	¾	¾	¾	1	1	1	1¼	1¼
8	½	¾	¾	1	1¼	1¼	1¼	1½	1½
6	½	1	1	1¼	1½	1½	2	2	2
4	½	1¼	1¼	1½	1½	2	2	2	2½
2	¾	1¼	1¼	2	2	2	2½	2½	2½
1	¾	1½	1½	2	2½	2½	2½	3	3
0	1	1½	2	2	2½	2½	3	3	3
00	1	2	2	2½	2½	3	3	3	3½
000	1	2	2	2½	3	3	3	3½	3½
0000	1¼	2	2½	3	3	3	3½	3½	4
250	1¼	2½	2½	3	3	3½	4	4	4½
300	1¼	2½	2½	3	3½	4	4	4½	4½
350	1¼	3	3	3½	3½	4	4½	3½	5
400	1½	3	3	3½	4	4	4½	5	5
500	1½	3	3	3½	4	4½	5	5	6

G-E CABLE

SIMPLIFIED SELECTION OF CONDUCTOR SIZE

Table 7

SIZES REQUIRED TO MAINTAIN 2 PER CENT MAXIMUM VOLTAGE DROP

Single-phase A-c Circuit (in Conduit)

Current in Amperes	110 Volts									220 Volts								
	Distance in Feet to Center of Distribution																	
	25	50	75	100	150	200	300	400	500	25	50	75	100	150	200	300	400	500
	Conductor Size Required—Awg or 1000 Cir Mils																	
1	—	—	—	—	—	—	14	12	10	—	—	—	—	—	—	—	—	14
1.5	—	—	—	—	14	14	12	10	10	—	—	—	—	—	—	14	14	12
2	—	—	—	—	14	12	10	10	8	—	—	—	—	—	—	14	12	12
3	—	—	14	14	12	10	8	8	6	—	—	—	—	14	14	12	10	10
4	—	—	14	12	10	10	8	6	6	—	—	—	—	14	12	10	10	8
5	—	14	12	12	10	8	6	6	4	—	—	—	14	12	12	10	8	8
6	—	14	12	10	8	8	6	4	4	—	—	14	14	12	10	8	8	6
7	—	14	12	10	8	8	6	4	2	—	—	14	14	12	10	8	8	6
8	—	12	10	10	8	6	4	2	2	—	—	14	12	10	10	8	6	6
9	—	12	10	8	8	6	4	2	2	—	14	14	12	10	8	8	6	4
10	14	12	10	8	6	6	4	2	2	—	14	12	12	10	8	6	6	4
12	14	10	8	8	6	4	2	1	1	—	14	12	10	8	8	6	4	4
14	14	10	8	8	6	4	2	0	0	—	14	12	10	8	8	6	4	2
16	12	10	8	6	4	4	2	0	00	—	12	10	10	8	6	4	4	2
18	12	8	8	6	4	2	1	00	00	14	12	10	8	8	6	4	2	2
20	12	8	6	6	4	2	1	00	000	14	12	10	8	6	6	4	2	2
25	10	8	6	4	2	2	0	000	0000	14	10	8	8	6	4	2	2	1
30	10	6	4	4	2	1	00	—	—	12	10	8	6	4	4	2	1	0
35	10	6	4	2	2	0	000	—	—	12	10	8	6	4	2	2	0	00
40	8	6	4	2	1	00	0000	—	—	12	8	6	6	4	2	1	00	0000
45	8	4	4	2	0	00	—	—	—	10	8	6	4	4	2	0	00	0000
50	8	4	2	2	0	000	—	—	—	10	8	6	4	2	2	0	000	0000
60	6	4	2	1	00	0000	—	—	—	10	6	4	4	2	1	00	0000	—
70	6	2	2	0	000	—	—	—	—	10	6	4	2	2	0	000	—	—
80	6	2	1	00	0000	—	—	—	—	8	6	4	2	1	00	0000	—	—
90	4	2	0	00	—	—	—	—	—	8	4	4	2	0	00	—	—	—
100	4	2	0	000	—	—	—	—	—	8	4	2	2	0	000	—	—	—
120	4	1	00	0000	—	—	—	—	—	6	4	2	1	00	0000	—	—	—

Three-phase A-c Circuit (in Conduit)

	220 Volts									440 Volts								
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1.5	—	—	—	—	—	—	—	14	14	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	14	14	12	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	14	12	12	10	—	—	—	—	—	—	—	14	14
4	—	—	—	—	14	14	12	10	10	—	—	—	—	—	—	14	14	12
5	—	—	—	—	14	12	10	10	8	—	—	—	—	—	—	14	12	12
6	—	—	—	14	12	12	10	8	8	—	—	—	—	—	14	12	12	10
7	—	—	14	14	12	10	8	8	6	—	—	—	—	14	14	12	10	10
8	—	—	14	14	12	10	8	6	6	—	—	—	—	14	14	12	10	10
9	—	—	14	12	10	10	8	6	6	—	—	—	—	14	12	10	10	8
10	—	—	14	12	10	10	8	6	6	—	—	—	—	14	12	10	10	8
12	—	14	12	12	10	8	6	6	4	—	—	—	14	12	12	10	8	8
14	—	14	12	10	8	8	6	4	4	—	—	14	14	12	10	8	8	6
16	—	14	12	10	8	8	6	4	2	—	—	14	14	12	10	8	8	6
18	—	12	10	10	8	6	4	4	2	—	—	14	12	10	10	8	6	6
20	—	12	10	10	8	6	4	2	2	—	—	14	12	10	10	8	6	6
25	14	12	10	8	6	6	4	2	1	—	14	12	12	10	8	6	6	4
30	14	10	8	8	6	4	2	2	0	—	14	12	10	8	8	6	6	4
35	12	10	8	6	4	4	2	1	0	—	12	10	10	8	6	4	4	4
40	12	10	8	6	4	2	2	0	00	—	12	10	10	8	6	4	2	2
45	12	8	6	6	4	2	1	0	000	14	12	10	8	6	6	4	2	2
50	12	8	6	4	4	2	0	00	000	14	12	10	8	6	6	4	2	1
60	10	8	6	4	2	2	0	000	—	14	10	8	8	6	4	2	2	0
70	10	6	4	4	2	1	00	0000	—	12	10	8	6	4	4	2	1	0
80	10	6	4	2	2	0	000	—	—	12	10	8	6	4	2	2	0	00
90	8	6	4	2	1	0	0000	—	—	12	8	6	6	4	2	1	0	000
100	8	6	4	2	0	00	—	—	—	12	8	6	6	4	2	0	00	000
120	8	4	2	2	0	0000	—	—	—	10	8	6	4	2	2	0	000	0000

Sizes listed herein should be checked from Tables 3 and 4 to make certain that they are large enough to carry the current.

G-E CABLE—FINISH DATA

Finishes Available

CHARACTERISTICS

Finishes may be classified:

First, as to the material employed:

Metallic

Nonmetallic

Second, as to their function:

Moisture-resistant

Weather-resistant

Flame-resistant

Corona-resistant

Wear- and abrasion-resistant

Tension-resistant

Corrosion-resistant

Miscellaneous

The following description is arranged according to the first classification. The metallic and nonmetallic finishes are first described in general and then the individual types under each are taken up in detail.

Metallic Finishes

The common metallic finishes are:

Pure-lead sheath

Reinforced lead sheath

Alloy-lead sheath

Flat-band armor

Interlocked armor

Round-wire armor

Basket-weave armor

With the exception of the lead sheaths, such finishes are strong mechanically, highly resistant to wear and abrasion, and flame-resistant. Again with the exception of the lead sheath, they are not moisture–resistant, and with the exception of the wire armor they have little tensile strength. All are good conductors and most of them can serve as corona shields; they are sometimes used also as neutral return conductors.

Unless special precautions are taken, circulating currents will flow in a metallic finish on single-conductor cable connected to polyphase circuits, which although unimportant for the smaller conductor sizes may be important for the larger conductor sizes.

These finishes are highly resistant to weathering. They are, however, liable to damage by corrosion underground when certain chemical reagents are present in the soil; and under such conditions they must be specially protected.

Lead sheaths, while their mechanical properties are inferior to those of the armor finishes, are moisture-resistant and highly resistant to most forms of corrosion. Where both mechanical strength and moisture-resistant qualities are required, a combination of lead sheath and armor should be used.

Nonmetallic Finishes

The more common nonmetallic finishes are:

Flame- and moisture-resistant cotton (weather-resistant) braid

Flame-resistant braid

Hose jackets

Oil-, acid-, and alkali-resistant compound

Thermoplastic

Jute and asphalt

Treated-duck tape

Asbestos, glass or rayon braids.

Although not subject to corrosion, some of the nonmetallic finishes are liable to rot off in time if exposed to severe weather conditions or variably damp surroundings. This does not apply to the oil-, acid-, and alkali-resistant insulation on G-E Geoprene* cables and the thermoplastic insulation on G-E Flamenol* cables or to the hose jackets, which will resist this form of decay for extremely long periods. The nonmetallic finishes are not moisture-resistant, with the exception again of those on Geoprene and Flamenol cables. Geoprene and Flamenol cables have braids with flame-resistant properties.

* Reg. Trade-mark of General Electric Company.

SHIPPING REELS FOR V-C AND RUBBER-INSULATED CABLE

STANDARD SIZES AND TOTAL FEET OF CABLE PER REEL

Reel Designation	All Dimensions in Inches															
	—	G	H	J	K	F	M	N	P	R	V	W	X	Y	108X92	108X199
Flange diameter	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	108
Drum diameter	14	15	16	24	24	32	32	40	48	48	56	48	48	48	54	54
Inside traverse	8.5	16.75	18	24	24	32	32	36	36	36	48	52	64	64	92	199
Maximum over-all width	11.5	22.5	28	34	34	43	43	48	48	48	62	65.5	78.25	78.25	132	244
Clearance under lags	Cable—O.D.—But not less than 2 in.											Cable—O.D.—But not less than 3 in.				
Hub hole diameter	1 9/32	1 3/4	3	3	3	3	3	3	4 1/8	4 1/8	4 1/8	4 1/8	4 1/8	4 1/8		
Approx cubical feet content over lagging	4.0	15.0	26	42	53	90	108	144	169	196	290	349	471	528	1100	2240

Over-all Diameter of Cable (inches)	Maximum Feet of Cable Per Reel															
.25	2010	8300														
.30	1270	5600														
.35	1000	4000														
.40	680	3100														
.45	530	2550														
.50	510	2110	△2210	△4055	△4055											
.60	360	1430	△1970	3175	△3530											
.70	250	950	1570	2436	△3055	5200										
.80	160	720	1258	1720	2852	4230										
.90	150	540	875	1340	2345	3437	△4305									
1.00	93	490	805	1194	1870	2707	3873	4700	4860							
1.10		350	608	914	1518	2223	2929	3875	3960							
1.20		330	474	707	1267	1778	2766	3230	3260	4245						
1.30		230	449	640	971	1376	2266	2535	2513	3835						
1.40			331	609	929	1270	1811	2100	2040	3286						
1.50			308	440	726	1225	1732	1945	1881	2640	3990				22100	49700
1.60			306	414	686	943	1426	1559	1810	2548	3327				.....	.....
1.70				387	510	848	1288	1500	1406	2087	3113				15700	34900
1.80				277	510	848	1076	1437	1344	2000	2520				.....	.....
1.90				257	483	623	1023	1102	1280	1587	2330				.....	.....
2.00				236	445	587	968	1048	1215	1509	2245				11700	26100
2.10				236	340	550	724	992	886	1429	1742				.....	.....
2.20				216	310	550	724	716	833	1082	1667				9670	21900
2.30				135	310	367	684	716	833	1082	1591	2348			.....	.....
2.40				135	310	367	523	675	785	1022	1237	2230			.....	.....
2.50						342	484	629	523	951	1175	2080			7030	15900
2.60						342	484	629	523	734	1113	1783	2850		.....	.....
2.70						315	449	453	523	734	1113	1710	2420	3037	5750	12960
2.80						197	449	420	487	682	1056	1610	2457	2934	.....	.....
2.90						178	288	420	487	682	712	1635	2370	2827	.....	.....
3.00						178	288	385	448	629	712	1383	2400	2867	5340	12000
3.10/3.20								385	285	450	667	1174	1896	2310	4350	9690
3.30								385	258	410	667	1174	1791	2214	.....	.....
3.40								220	258	410	624	1107	1709	1710	.....	.....
3.50									258	410	624				3450	7740
3.60									258	410	397				.....	.....
3.70									232	372	365				3230	7350
3.80									232	233	365				.....	.....
3.90/4.00									232	233	335				2450	5760
4.10											335				.....	.....
4.20											335				2370	5500
4.30/4.40											305				.....	.....
4.50/4.60															2290	5340
4.70/4.80															1700	4120
4.90/5.00															1650	3830

Footages shown under the two largest reels are approximate only.

Figures above the heavy line can be used for both rubber and varnished-cambric insulated cable. Figures below the heavy line can be used only for rubber insulated cable.

△Indicates length limited to maximum of 12 layers.

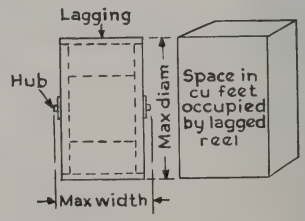
IPCEA—Formula used for calculating footage of cable

$$F=\frac{\pi}{12}\left\{\left[B+\left(\frac{A-2X-B}{2D}\right)\dagger D\right]\left[\frac{A-2X-B}{2D}\right]\dagger\left[\frac{C\times 0.9}{D}\right]\dagger\right\}$$

F—Feet of cable on reel
A—Flange diameter
B—Drum diameter
C—Inside traverse
D—Diameter of cable
X—Clearance under lags

Based on minimum drum diameter of 14 times cable diameter
Foreign shipments
Lags 2 in. thick 30 in. to 48 in. reels
Lags 3 in. thick 54 in. to 102 in. reels

†—Use whole numbers only, i.e., drop fractions of turns.



INSULATED WIRES AND CABLES

EXCERPTS FROM

National Electrical Code (NEC) 1951 Edition

CONDUCTORS

Trade Name	Type Letter	Maximum Operating Temperature	Outer Covering	Special Provisions
Rubber-Covered Fixture Wire	RF-64	60C (140F)	Cotton	Fixture Wiring Limited to 300 V
Solid or Stranded	RF-32	60C (140F)	Cotton	Fixture Wiring, and as permitted in section 3103
Rubber-Covered Fixture Wire	FF-64	60C (140F)	Cotton or Rayon	Fixture Wiring Limited to 300 V
Flexible Stranding	FF-32	60C (140F)	Cotton or Rayon	Fixture Wiring
Latex Rubber Fixture Wire, Solid or Stranded	RUF	60C (140F)	Moisture-Resistant Flame-Retardant Non-metallic Covering	Fixture Wiring, and as permitted in section 3103
Flexible Stranding	RUFF	60C (140F)	Moisture-Resistant Flame-Retardant Non-metallic Covering	Fixture Wiring
Thermoplastic-Covered Fixture Wire— Solid or Stranded	TF	60C (140F)	None	Fixture Wiring, and as permitted in section 3103
Thermoplastic-Covered Fixture Wire — Flexible Stranding	TFF	60C (140F)	None	Fixture Wiring
Cotton-Covered Heat-Resistant Fixture Wire	CF	90C (194F)	None	Fixture Wiring Limited to 300 V
Asbestos-Covered Heat-Resistant Fixture Wire	AF	150C (302F)	None	Fixture Wiring Limited to 300 V
Code Rubber	R	60C (140F)	Moisture-Resistant Flame-Retardant Non-metallic Covering	General Use
Heat-Resistant Rubber	RH	75C (167F)	Moisture-Resistant Flame-Retardant Non-metallic Cover	General Use
Moisture-Resistant Rubber	RW	60C (140F)	Moisture-Resistant Flame-Retardant Non-metallic Covering	General Use and Wet Locations
Latex Rubber	RU	60C (140F)	Moisture-Resistant Flame Retardant Non-metallic Covering	General Use
Moisture-Resistant Latex Rubber	RUW	60C (140F)	Moisture-Resistant Flame-Retardant Non-metallic Covering	General Use and Wet Locations

INSULATED WIRES AND CABLES

EXCERPTS FROM

National Electrical Code (NEC) 1951 Edition

CONDUCTORS

Trade Name	Type Letter	Maximum Operating Temperature	Outer Covering	Special Provisions
Thermoplastic	T	60C (140F)	None	General Use
Moisture-Resistant Thermoplastic	TW	60C (140F)	None	General Use and Wet Locations
Thermoplastic and Asbestos	TA	90C (194F)	Flame-Retardant Cotton Braid	Switchboard Wiring only
Varnished Cambric	V	85C (185F)	Non-metallic Covering or Lead Sheath	Dry locations only. Smaller than No. 6 by special permission
Asbestos and Varnished Cambric	AVA	110C (230F)	AVA Asbestos Braid	Dry Locations only
Asbestos and Varnished Cambric	AVL	110C (230F)	AVL Asbestos Braid and Lead Sheath	Wet Locations
Asbestos and Varnished Cambric	AVB	90C (194F)	Flame-Retardant Cotton Braid	Dry Locations only
Asbestos	A	200C (392F)	Without Asbestos Braid	Dry locations only. Not for general use. In raceways, for leads to or within apparatus. Limited to 300 V
Asbestos	AA	200C (392F)	With Asbestos Braid	Dry locations only. Open wiring. Not for general use. In raceways, only for leads to or within apparatus. Limited to 300 V
Asbestos	AI	125C (257F)	Without Asbestos Braid	Dry locations only. Not for general use. In raceways, only for leads to or within apparatus. Limited to 300 V
Asbestos	AIA	125C (257F)	With Asbestos Braid	Dry locations only. Open wiring. Not for general use. In raceways, only for leads to or within apparatus
Paper	.....	85C (185F)	Lead Sheath	For underground service conductors, or by special permission
Slow-Burning	SB	90C (194F)	Outer Cover Finished Smooth and Hard	Dry locations only. Open wiring; and in raceways where temperatures will exceed those permitted for rubber-covered or varnished cambric-covered conductors
Slow-Burning Weatherproof	SBW	90C (194F)	Outer Fire-Retardant Coating	Dry locations only. Open wiring only.
Weatherproof	WP	80C (176F)	.....	Open wiring by special permission where other insulations are not suitable for existing conditions.

EXCERPTS FROM 1951 CODE

TABLE 1—ALLOWABLE CURRENT-CARRYING CAPACITIES OF INSULATED CONDUCTORS IN AMPERES
Not More Than Three Conductors in Raceway or Cable
(Based on Room Temperatures of 30 C. 86 F.)

Size AWG MCM	Rubber Type R Type RW Type RU Type RUW (14-2) Thermo-plastic Type T Type TW	Rubber Type RH	Paper Thermo-plastic Asbestos Type TA Var-Cam Type V Asbestos Var-Cam Type AVB	Asbestos Var-Cam Type AVA Type AVL	Impreg-nated Asbestos Type AI 14-8 Type AIA	Asbestos Type A 14-8 Type AA
14	15	15	25	30	30	30
12	20	20	30	35	40	40
10	30	30	40	45	50	55
8	40	45	50	60	65	70
6	55	65	70	80	85	95
4	70	85	90	105	115	120
3	80	100	105	120	130	145
2	95	115	120	135	145	165
1	110	130	140	160	170	190
0	125	150	155	190	200	225
00	145	175	185	215	230	250
000	165	200	210	245	265	285
0000	195	230	235	275	310	340
250	215	255	270	315	335	..
300	240	285	300	345	380	...
350	260	310	325	390	420	...
400	280	335	360	420	450	...
500	320	380	405	470	500	...
600	355	420	455	525	545	...
700	385	460	490	560	600	...
750	400	475	500	580	620	...
800	410	490	515	600	640	...
900	435	520	555	...	...	...
1,000	455	545	585	680	730	...
1,250	495	590	645	...	...	...
1,500	520	625	700	785	...	...
1,750	545	650	735	...	...	...
2,000	560	665	775	840	...	...

Correction Factor for Room Temperatures Over 30 C. 86 F.

C.	F.						
40	104	.82	.88	.90	.94	.95	...
45	113	.71	.82	.85	.90	.92	...
50	122	.58	.75	.80	.87	.89	...
55	131	.41	.67	.74	.83	.86	...
60	140	...	.58	.67	.79	.83	.91
70	158	...	.35	.52	.71	.76	.87
75	167	...	...	.43	.66	.72	.86
80	176	...	...	.30	.61	.69	.84
90	194	...	...	...	.50	.61	.80
100	212	...	...	...	...	.51	.77
120	248	...	...	...	..	...	.69
140	284	...	...	..	..	..	.59

TABLE 2—ALLOWABLE CURRENT-CARRYING CAPACITIES OF INSULATED CONDUCTORS IN AMPERES
Single Conductor in Free Air
(Based on Room Temperature of 30 C. 86 F.)

Size AWG MCM	Rubber Type R Type RW Type RU Type RUW (14-2) Thermo-plastic Type T Type TW	Rub-ber Type RH	Thermo-plastic Asbestos Type TA Var-Cam Type V Asbestos Var-Cam Type AVB	As-bestos Var-Cam Type AVA Type AVL	Impreg-nated As-bestos Type AI (14-8) Type AIA	As-bestos Type A (14-8) Type AA	Slow Burn-ing Type SB Weath-er-proof Type WP Type SBW
14	20	20	30	40	40	45	30
12	25	25	40	50	50	55	40
10	40	40	55	65	70	75	55
8	55	65	70	85	90	100	70
6	80	95	100	120	125	135	100
4	105	125	135	160	170	180	130
3	120	145	155	180	195	210	150
2	140	170	180	210	225	240	175
1	165	195	210	245	265	280	205
0	195	230	245	285	305	325	235
00	225	265	285	330	355	370	275
000	260	310	330	385	410	430	320
0000	300	360	385	445	475	510	370
250	340	405	425	495	530	....	410
300	375	445	480	555	590	....	460
350	420	505	530	610	655	....	510
400	455	545	575	665	710	....	555
500	515	620	660	765	815	....	630
600	575	690	740	855	910	....	710
700	630	755	815	940	1005	....	780
750	655	785	845	980	1045	....	810
800	680	815	880	1020	1085	....	845
900	730	870	940	....	....	....	905
1000	780	935	1000	1165	1240	....	965
1250	890	1065	1130	....	....	....	....
1500	980	1175	1260	1450	....	....	1215
1750	1070	1280	1370	....	....	....	....
2000	1155	1385	1470	1715	....	....	1405

Correction Factor for Room Temperatures Over 30 C. 86 F.

C.	F.							
40	104	.82	.88	.90	.94	.95	....	....
45	113	.71	.82	.85	.90	.92	....	....
50	122	.58	.75	.80	.87	.89	....	....
55	131	.41	.67	.74	.83	.86	....	....
60	140	....	.58	.67	.79	.83	.91	....
70	158	....	.35	.52	.71	.76	.87	....
75	167	....	....	.43	.66	.72	.86	....
80	176	....	....	.30	.61	.69	.84	....
90	194	....	....	....	.50	.61	.80	....
100	212	....	....	....	....	.51	.77	....
120	248	....	....	....	....	....	.69	....
140	284	....	....	....	....	....	.59	....

NOTE TO ABOVE TABLES

For explanation of Type Letters, and for recognized size of conductors for the various conductor insulations, see sections 3102 and 93101. For installation requirements, see section 3102, and the various artices of this code. For flexible cords see Tables 3 and 31.

1. Aluminum Conductors. For aluminum conductors, the allowable current-carrying capacities shall be taken as 84 per cent of those given in the table for the respective sizes of copper conductor with the same kind of insulation.

2. Bare Conductors. If bare conductors are used with insulated conductors, their allowable current-carrying capacity shall be limited to that permitted for the insulated conductor with which they are used.

3. Application of Table. For open wiring on insulators and for concealed knob-and-tube work, the allowable current-carrying capacities of Table 2 shall be used. For all other recognized wiring methods, the allowable current-carrying capacities of Table 1 shall be used, unless otherwise provided in this code.

4. More Than Three Conductors in a Raceway. Table 1 gives the allowable current-carry capacity for not more than three conductors in a raceway or cable. If the number of conductors in a raceway or cable is from 4 to 6, the allowable current-carrying capacity of each conductor shall be reduced to 80 per cent of the values in Table 1. If the number of conductors in a raceway or cable is from 7 to 9, the allowable current-carrying capacity of each conductor shall be reduced to 70 per cent of the values in Table 1.

Exceptions to the foregoing are specified in NEC sections 3624, 3745, and 7265.

5. Neutral Conductor. A neutral conductor which carries only the unbalanced current from other conductors, as in the case of normally balanced circuits of three or more conductors, shall not be counted in determining current-carrying capacities as provided for in the preceding paragraph.

In a 3-wire circuit consisting of two phase wires and the neutral of a 4-wire 3-phase system, a common conductor carries approximately the same current as the other conductors and is not therefore considered as a neutral conductor.

6. Ultimate Insulation Temperature. In no case shall conductors be associated together in such a way with respect to the kind of circuit, the wiring method employed, or the number of conductors, that the limiting temperature of the conductors will be exceeded.

7. Use of Conductors With Higher Operating Temperatures. If the room temperature is within 10 degrees C. of the maximum allowable operating temperature of the insulation, it is desirable to use an insulation with a higher maximum allowable operating temperature; although insulation can be used in a room temperature approaching its maximum allowable operating temperature limit if the current is reduced in accordance with the table of correction factors for different room temperatures.

8. Voltage Drop. The allowable current-carrying capacities in Tables 1 and 2 are based on temperature alone and do not take voltage drop into consideration.

9. Overcurrent Protection. If the standard ratings and settings of overcurrent devices do not correspond with the ratings and settings allowed for conductors, the next higher standard rating and setting may be used, but not exceeding 150 per cent of the allowable carrying capacity of the conductor.

10. Deterioration of Insulation. It should be noted that even the best grades of rubber insulation will deteriorate in time, so eventually will need to be replaced.

EXCERPTS FROM 1951 CODE

NOMINAL WALL OF INSULATION FOR VARIOUS COMPOUNDS

Conductor Size	New Type R	New Type RW	Type RH	Type T	Type TW	Type RU
14	2/64	3/64	2/64	2/64	2/64	13 mils
12	2/64	3/64	2/64	2/64	2/64	18 mils
10	3/64	3/64	3/64	2/64	2/64	18 mils
8	4/64	4/64	4/64	3/64	3/64	25 mils
6	4/64	4/64	4/64	4/64	4/64	25 mils
4	4/64	4/64	4/64	4/64	4/64	Not permitted
3	4/64	4/64	4/64	4/64	4/64	
2	4/64	4/64	4/64	4/64	4/64	
1	5/64	5/64	5/64	5/64	5/64	
1/0	5/64	5/64	5/64	5/64	5/64	
2/0	5/64	5/64	5/64	5/64	5/64	
3/0	5/64	5/64	5/64	5/64	5/64	
4/0	5/64	5/64	5/64	5/64	5/64	
250,000 to 2,000,000	Same as at present			Not recognized pending establishment of suitable standards.		
	Same as at present			Not recognized pending establishment of suitable standards.		

DIMENSIONS OF CONDUCTORS

Building Wire, Type R and RH

Size AWG-CM	Approx. Diam. Inches	Approx. Area Sq. Ins.	Size CM	Approx. Diam. Inches	Approx. Area Sq. Ins.
14	.162	.0206	450,000	1.08	.91
12	.179	.0252	500,000	1.12	.99
10	.24	.045	550,000	1.17	1.08
8	.30	.071	600,000	1.22	1.16
6	.41	.13	650,000	1.25	1.23
4	.45	.16	700,000	1.29	1.30
2	.52	.21	750,000	1.33	1.38
1	.59	.27	800,000	1.36	1.45
0	.63	.31	850,000	1.39	1.52
00	.67	.35	900,000	1.43	1.60
000	.72	.41	950,000	1.46	1.68
0000	.78	.48	1,000,000	1.49	1.75
250,000	.86	.58	1,250,000	1.68	2.22
300,000	.92	.67	1,500,000	1.79	2.52
350,000	.98	.75	1,750,000	1.90	2.85
400,000	1.03	.83	2,000,000	2.00	3.14

Synthetic Insulation, Type T, TW

Latex Insulation, Type RU

Size Awg.	Approx. Diam. in Inches	Approx. Area in Sq. In.
14	.130	.0133
12	.147	.170
10	.168	.0220
8	.227	.0405
6	.314	.0775
4	.363	.1035
2	.423	.1405
1	.496	.1935
0	.537	.226
00	.583	.267
000	.634	.316
0000	.692	.376

Note—Latex insulation, Type RU, recognized in size No. 14 to 6 incl. only.

NUMBER OF CONDUCTORS IN CONDUIT OR TUBING

Rubber Covered, Types RF-32, RUF, R, RH, RW, RU, and RUW. Thermoplastic, Types TF, T and TW One to Nine Conductors

Size AWG MCM	Number of Conductors in One Conduit or Tubing								
	1	2	3	4	5	6	7	8	9
18	½	½	½	½	½	½	½	¾	¾
16	½	½	½	½	½	¾	¾	¾	¾
14	½	½	½	¾	¾	¾	1	1	1
12	½	½	½	¾	¾	1	1	1	1¼
10	½	¾	¾	¾	1	1	1	1¼	1¼
8	½	¾	¾	1	1¼	1¼	1¼	1½	1½
6	½	1	1	1¼	1½	1½	2	2	2
4	½	1¼	*1¼	1½	1½	2	2	2	2½
3	¾	1¼	1¼	1½	2	2	2	2½	2½
2	¾	1¼	1¼	2	2	2	2½	2½	2½
1	¾	1½	1½	2	2½	2½	2½	3	3
0	1	1¼	2	2	2½	2½	3	3	3
00	1	2	2	2½	2½	3	3	3	3½
000	1	2	2	2½	3	3	3	3½	3½
0000	1¼	2	2½	3	3	3	3½	3½	4
250	1¼	2½	2½	3	3	3½	4	4	4½
300	1¼	2½	2½	3	3½	4	4	4½	4½
350	1½	3	3	3½	3½	4	4½	4½	5
400	1½	3	3	3½	4	4	4½	5	5
500	1½	3	3	3½	4	4½	5	5	6
600	2	3½	3½	4	4½	5	6	6	6
700	2	3½	3½	4½	5	5	6	6	...
750	2	3½	3½	4½	5	6	6	6	...
800	2	3½	4	4½	5	6	6	...	...
900	2	4	4	5	6	6	6	...	...
1000	2	4	4	5	6	6	...	...	...
1250	2½	4½	4½	6	6	...	...	...	...
1500	3	5	5	6	...	..	...	...	...
1750	3	5	6	6	...	...	...	...	...
2000	3	6	6	...	...	...	...	...	...

* Where a service run of conduit or electrical metallic tubing does not exceed 50 feet in length and does not contain more than the equivalent of two quarter bends from end to end two No. 4 insulated and one No. 4 bare conductors may be installed in 1-inch conduit or tubing.

MORE THAN NINE CONDUCTORS

Size A.W.G.	¾ Inch	1 Inch	1¼ Inch	1½ Inch	2 Inch	2½ Inch	3 Inch
18	12	20	35	49	80	115	176
16	10	17	30	41	68	97	150
14	..	10	18	25	40	59	90
12	..	..	15	21	35	50	77
10	..	..	13	17	29	41	64
8	..	..	..	10	17	25	38
6	..	..	..	..	..	15	23

More than nine conductors are permitted in a single conduit for conductors between a motor and its controller; stage pocket and border circuits, section 5212; sign flashers, section 6012-d; elevator control conductors, section 6214.

MAXIMUM PERMISSIBLE AREA

Conduit Fill in %

Nature of Conductor or Installation	No. of Conductors				
	1	2	3	4	Over 4
Standard Conductors (Not Lead Covered)	53	31	43	40	40
Lead Covered Conductors	55	30	40	38	35
For rewiring only existing raceways where structural or other considerations do not permit use of larger conduit.	60	40	50	50	50

It is important to remember that the larger percentage conduit fill is permissible **only** for rewiring and is **not** applicable when used for **new wiring**.

The maximum number of conductors permitted in a conduit for new work is definitely governed by Tables in the 1951 Code. The only one who may change this rule is the local inspector in a given territory.

The tabulated diameter and area figures for conductors, conduit and tubing listed in proceding pages are the ones listed in the 1951 Code. Upon these figures will be based the calculations to determine the sum of the cross sectional areas of the individual conductors, so that they will not be greater than the percentage of the interior cross sectional area of the conduit or tubing.

G-E FLAMENOL MACHINE TOOL WIRE

SI-58175—600 VOLTS

Application: For machine tool wire (80 C), 600 volts, per Machine Tool Electrical Standards with Joint Industry Conference Standards, revised and adopted September 13, 1950, by the National Machine Tool Builders Association. Heavy duty industrial wire 60 C. For appliances (80 C) in air and 60 C in water, oil or coolant, 600 volts. Also for control and special circuits in stations 60 C, and for appliances (new switchboards) 80 C, 600 volts. Listed as TW.

Listed by Underwriters' Laboratories, Inc.

↑ CONDUCTOR Solid or stranded

↑ Insulation

Size Awg or MCM	No. of Strands	Wall 64th Inch	Approx. O.D. Inches	Ship. Wt in Lb per 1000 Feet	Net Wt in Lb per 1000 Feet	Amp per Cond at 30 C Ambient per NEC
14	1	3	.16	28	23	15
14	7	3	.17	29	23	15
14	19	3	.17	29	23	15
14	41	3	.18	29	24	15
12	1	3	.18	37	32	20
12	7	3	.19	38	32	20
12	19	3	.19	38	32	20
12	49	3	.20	39	34	20
10	1	3	.20	53	45	30
10	7	3	.22	55	50	30
10	19	3	.22	55	50	30
10	49	3	.23	58	57	30
8	1	3	.23	72	69	40
8	7	3	.25	75	73	40
8	19	3	.25	83	80	40
8	49	3	.27	85	80	40
6	7	4	.32	121	119	55
6	49	4	.34	152	136	55
4	7	4	.36	176	174	70
4	19	4	.37	215	188	70
4	61	4	.37	227	200	70
2	7	4	.42	263	261	95
2	19	4	.43	303	276	95
2	61	4	.43	284	257	95
1	19	5	.50	408	339	110
0	19	5	.54	484	416	125
00	19	5	.58	578	514	145
000	19	5	.64	695	633	165
0000	19	5	.69	842	787	195
250	37	6	.77	1064	914	215
350	37	6	.88	1399	1267	260
500	37	6	1.01	1928	1751	320

Packing—Sizes No. 14, 12 and 10 Awg, 500′ Spools two per carton; size No. 8 Awg, 500′ Spools, one per carton; size No. 6 Awg, 500′ Reels, non-returnable; sizes No. 4 to 500 MCM, 1000′ Reels.

G-E FLAMENOL FIXTURE AND APPLIANCE WIRE

SI-58170

600 Volts—Maximum Operating Temperature 60° C

These General Electric fixture wires are designed for use in lighting fixtures where the copper temperature does not exceed 60C.

Appliance wire is for internal wiring of practically any appliance, for example, radios, refrigerators, automatic washing machines, and the like. These wires are insulated with a thermoplastic compound that has excellent electrical and physical characteristics, and is resistant to heat, flame and moisture. The wires are mechanically strong and flexible, and will not rupture when bent. The easy-stripping thermoplastic insulation makes splicing and terminating quick and simple. Their brilliant, permanent color-coding makes these wires especially suitable for wiring lighting fixtures. Listed by Underwriters' Laboratories, Inc.

↑ Bare Copper Conductor Solid or Stranded

↑ Thermoplastic Insulation

Packing—Size No. 20 and 18 Awg—500′ Spools, 4 per carton. Size No. 16 Awg—500′ Spools, 2 per carton.

UL Type	Size Awg	No. of Strands	Wall 64th Inch	Approx. O.D. Inches	Ship. Wt. in Lb per 1000 Ft.	Net Wt. in Lb per M Feet	Amp. per Cond. at 30C Ambient per NEC
----------	20	7	2	.11	10	8	3
TF-32	18	1	2	.11	12	9	6
TFF-32	18	16	2	.11	12	10	6
TF-32	16	1	2	.12	16	13	8
TF	16	1	3	.15	20	16	8
TFF-32	16	26	2	.13	16	13	8
TFF	16	26	3	.16	21	16	8

G-E GEOTROL CABLE

SI-53297—600 VOLTS

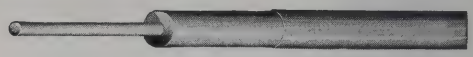
Gasoline- and Oil-resistant Wire

Application: Designed especially for electrical circuits to gasoline pumps at filling stations, and for control and similar circuits in refineries, etc.

The 1947 National Electrical Code, Section 5023, states that "Where condensed vapors or liquids having a deleterious effect on rubber may collect on or come in contact with the insulation on conductors, such insulation shall be of a type approved for use under such conditions or the insulation shall be protected by a sheath of lead or by other approved means."

Geotrol is listed by the Underwriters' Laboratories as approved for use where exposed to gasoline and gasoline vapors. Prior to the listing of Geotrol it was necessary to use a leaded cable even though it was expensive, bulky or undesirable for other reasons.

Packing—500 ft. coil, one per carton.



CONDUCTOR Solid — THERMOPLASTIC Insulation — JACKET Gasoline-resistant

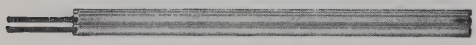
Size Awg	No. of Strands	Wall 64th Inch	Approx O.D. Inches	Ship. Wt in Lb per 1000 Ft	Net Wt in Lb per M Ft
14	1	2	.15	23	22
12	1	2	.16	32	31
10	1	2	.19	45	44

G-E FLAMENOL REMOTE-CONTROL WIRE

INDOOR—SI-53083—30 VOLTS MAX.

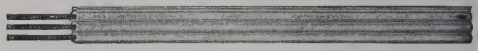
Application: Designed for indoor use on G-E low voltage Remote-control wiring systems.

TWO-CONDUCTOR



STRANDED CONDUCTORS — THERMOPLASTIC Insulation

THREE-CONDUCTOR



STRANDED CONDUCTORS — THERMOPLASTIC Insulation

These Flamenol wires are available in two or three conductors and are thin and flat — easy to install. The conductors are stranded copper. Polarity identification on both the 2 and 3 conductor wire is by a double rib on one of the outer conductors for easy circuit identification. It can be installed in new construction without any raceway protection. In old construction, it can be snaked into the walls in the usual manner or stapled to the surface of the wallboard. In plaster walls it can be laid into a shallow groove and plastered over.

Ref. Article 725 1947 NEC Class 2 Circuits

Number of Conductors	Size Awg	No of Strands	Insulation Jacket in 64ths	Approx Over-all Diam in Inches	Approx Wt in Lb per M Ft	Packing
2	20	10	1	.08 x .17	16	500′ Spool Two per carton
3	20	10	1	.08 x .26	24	500′ Spool Two per carton

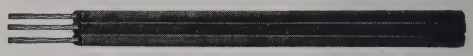
G-E OUTDOOR REMOTE-CONTROL WIRE

SI-53086—300 VOLTS

Application: Designed for outdoor use, overhead or direct burial.

This new three-conductor neoprene-insulated Remote-control Wire is available for outdoor use either overhead or for direct burial. If used overhead, on spans exceeding 15 feet, G.E. recommends it be attached to a Size No. 6 or No. 8 galvanized steel messenger. A suggested method of attaching the Remote-control Wire to the messenger is by twisting it around the messenger or by tying it firmly to the messenger at intervals of 1 or 2 feet, using No. 33 Scotch tape. The messenger and means of attachment are to be supplied by the customer. Polarity identification is provided by rib on side of cord.

THREE-CONDUCTOR



STRANDED CONDUCTORS — NEOPRENE INSULATION

Number of Conductors	Size Awg	No of Strands	Insulation Jacket in 64ths	Approx Over-all Diam in Inches	Approx Wt in Lb per M Ft	Packing
3	18	16	3	.16 x .41	54	500′ Coil per carton

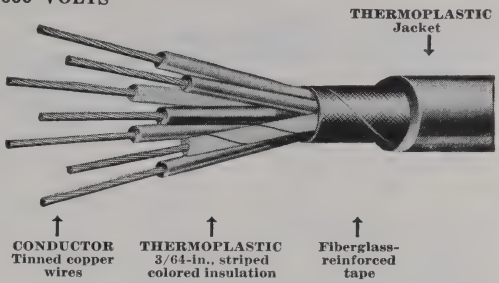
G-E FLAMENOL STATION CONTROL CABLE

SI-58173—600 VOLTS

Application: For important control circuits.

(1) Leads from temperature-recording devices on rotating equipment to the switchboard.
(2) Leads from current and potential transformers to the switchboard.
(3) Motor leads.
(4) Any multiple-conductor cable for application with current requirements within the limits shown below.

Can be installed in open air, in ducts or conduit. Multiple conductors also suitable for direct burial in the earth.



Versatile—This cable can be installed in conduit or ducts, in the open air, or buried directly in the ground.

Permanent Identification — Colored Flamenol with permanent inlaid stripes in accordance with table below afford easy circuit tracing.

No. of Cond.	COLOR CODE: Color of Insulation on Cond.	COLOR CODE: Color of Stripe	SI-58173—SIZE 19/25: Ship. Wt Lb per 1000 Ft (*)	SI-58173—SIZE 19/25: Thickness of Sheath 64ths In.	SI-58173—SIZE 19/25: Over-all Diameter in Inches	SI-58173—SIZE 19/22: Ship. Wt Lb per 1000 Ft (*)	SI-58173—SIZE 19/22: Thickness of Sheath 64ths In.	SI-58173—SIZE 19/22: Over-all Diameter in Inches
1	Black	----------	------	--	.19	84	3△	.23
2	White	----------	171	3	.32x.51	267	4	.39x.62
3	Red	----------	228	4	.56	343	4	.64
4	Green	----------	293	4	.60	428	4	.69
5	Orange	----------	338	4	.66	503	4	.76
6	Blue	----------	398	4	.72	596	5	.86
7	White	Black	432	4	.72	655	5	.86
8	Red	Black	497	4	.79	791	5	.94
9	Green	Black	597	5	.87	892	5	1.01
10	Orange	Black	676	5	.94	993	5	1.09
12	Black	White	733	5	.97	1112	5	1.12

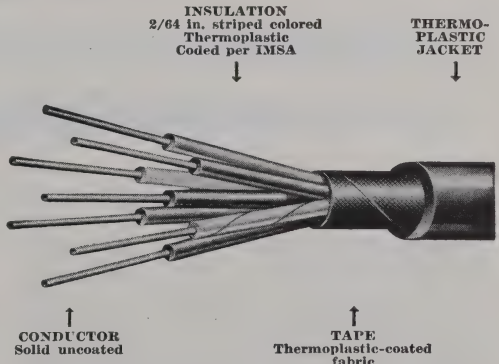
*Net weight is approximately 1/6 less. △Total thickness of insulation.

G-E FLAMENOL TRAFFIC CONTROL CABLE

SI-58026—600 VOLTS

No. of Cond.	Ship. Wt. Lb. per 1000 Ft.§	Thickness of Sheath in 64ths	Approx. Over-all Diam. in Inches	Pack
No. 14 Awg SOLID—JACKETED—SI-58026				
4	159	3	.45	1000′ reels
6	248	4	.56	
7	273	4	.56	
8	298	4	.60	
12	416	4	.71	
No. 12 Awg SOLID—JACKETED—SI-58026				
4	199	3	.49	1000′ reels
6	308	4	.61	
7	343	4	.61	
8	396	4	.66	
12	554	4	.78	

§Net weight is approximately 1/6 less.

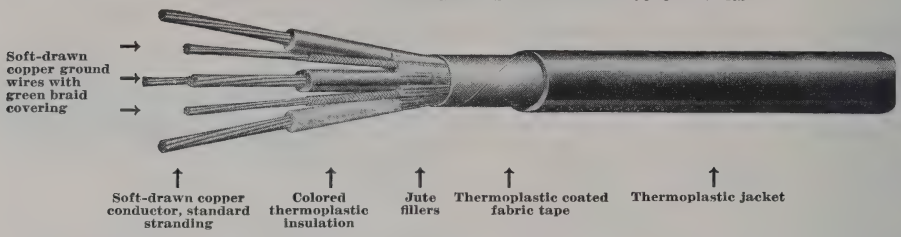


For control wiring on traffic-signal circuits. Can be installed in open air, in ducts or conduit. Multiple conductors also suitable for direct burial in the earth.

This cable can be quickly and easily installed because color coding makes circuit identification easy. The smooth, slick jacket permits easy pulling into conduit and ducts. Flamenol cable is long-lived because it is not affected by most oils, acids, and alkalis — and does not time age. Flamenol cable reduces hazard of fire since it will not support combustion. The individual conductors are insulated with 2/64-in. colored insulation and identified in accordance with Nema-Nela Color Scheme which also agrees with IMSA Specification No. 1—1937. A stripe is used where colored tracer is specified. A coated tape is wrapped over the assembled conductors and a black jacket extruded overall. Color code: black, white, red, green, orange, blue — white with black stripe, red with black, green with black, orange with black, blue with black, and black with white stripe.

G-E FLAMENOL BUS-DROP CABLE

Three Conductor—With Ground Wire—SI-58179 600 Volts


Soft-drawn copper ground wires with green braid covering
Soft-drawn copper conductor, standard stranding
Colored thermoplastic insulation
Jute fillers
Thermoplastic coated fabric tape
Thermoplastic jacket

Three-conductor Flamenol bus-drop cable is available in all sizes needed to provide three-phase power to the individual production units. Three ground wires are stranded into the interstices of the cable in order to keep the over-all diameter to a minimum. These ground wires have a total circular mil area equivalent to one of the main conductors and, therefore, provide sufficient capacity for the grounding circuit.

This cable is flexible and can be easily and quickly installed without the use of conduit. The smooth oil-resistant jacket and the simple installation system result in a neat appearance.

Flamenol resists oil, grease, gasoline, acids, and alkali cutting fluids. The tough thermoplastic jacket will resist severe mechanical abuse.

The fittings required for the installation of this cable are simple and inexpensive.

The elimination of fire hazards is especially important in a modern industrial plant — Flamenol will not support combustion.

Size Awg or MCM	Ship. Wt. in Lb. per 1000 Feet*	Thickness in 64ths Insulation	Thickness in 64ths Sheath	Over-all Diam. in Inches
14	170	2	3	.44
12	205	2	3	.47
10	310	2	4	.56
8	460	3	4	.70
6	550	4	5	.87
4	800	4	5	.98

*Net weight is approximately 1/6 less.

G-E NEON SIGN CABLE—GTO-15

SI-58139

Application: For connecting gas tube signs with transformers. For oil burner ignition and other high voltage uses. See below.

Application: Neon sign cable is for use between high-voltage terminals of sign transformers and signs. It is also used for oil-burner ignition cable, and has been listed by the Underwriters' Laboratories, for both uses. Because Polyethylene insulation has such excellent dielectric properties this cable is smaller and lighter than any previous neon sign cables. For instance, the present cable rated 15,000 volts is 26 mils smaller than the old 5000-volt cable and only a little over one half the size of the old 15,000-volt cable.

Neon sign cable can be used indoors or outdoors, because the black jacket used over-all is resistant to air, sunshine, and moisture, and will not burn. Flamenol also resists oil, alkalies, and acids.

This cable can be used in applications calling for a GTO-5, -10, or -15 cable.

Listed by Underwriters' Laboratories, Inc.

Type	Voltage Rating	Ship. Wt in Lb per 1000 Ft	Standard Packages	Approx O.D. in In.
GTO-15	15 kv	44	500 ft coils, 1 per carton 250 ft coils, 2 per carton 100 ft coils, 5 per carton	.26

Since this Neon Sign Cable is so versatile, only one cable need be carried in stock for wiring requirements for oil-burner ignition circuits or luminous gas-tube-lighting circuits for voltages from 5000 to 15,000 volts installed indoors or outdoors.

G-E AUDIO DRIVE-IN THEATRE CABLE

SI-58177

Application: For use between control booth and terminal boards at posts for operation of individual speakers. Suitable for direct burial.

↑ Copper Conductor ↑ Black thermoplastic insulation—side ribbed for polarity identification

No. of Cond.	Size Cond.	No. of Str.	Approx O.D. in Inches	Ship. Wt in Lb per 1000 Ft	Wall in 64th Inch	Pack
2	14	1	.20 x .36	64	4	500′ Coil per Carton
2	14	7	.21 x .38	65	4	1500′ Coil per Carton
2	12	1	.22 x .39	88	4	500′ Coil per Carton
2	12	7	.23 x .41	90	4	1000′ Coil per Carton

ADDITIONAL CABLES FOR DRIVE-IN THEATERS ARE AS FOLLOWS:

1. Power Cable—

For use between control booth and terminal boards at posts for operation of individual car heaters. Versatol* - Geoprene construction for direct burial per SI-58004. The No. 4 and 6 Awg copper sizes have been chosen for a 220-volt single phase 3 wire circuit. The No. 4 Awg black and red are for the live sides of the line, the No. 6 Awg white is for the grounded side of the line. Power Cable sizes will vary with voltage and circuit conditions. For other circuits or cable sizes, refer to the nearest Construction Materials Department Office.

Sizes No. 4 and 6 Awg authorized for stock in black, white and red.

*Reg. Trade-mark of General Electric Company.

2. Heater and Speaker Cords—

For outside use from terminal boards at posts to individual car heaters and/or speakers. Use either two or three conductor cord as required.

Two- and three-conductor, Type SJO, No. 18 Awg (41 strands) constant service.

3. Additional Power Cables may be required including—

(a) Wiring for concessions—Building Wire
(b) Floodlight Cable—VERSATOL*-GEOPRENE
(c) Aisle Lights—VERSATOL-GEOPRENE
(d) Projection Machines—DELTABESTON*
(e) Portable Cords

G-E MINE TELEPHONE CABLE

TWISTED PAIR JACKETED—SI-58059

↑ No. 16 Awg 40% copperweld ↑ THERMOPLASTIC insulation. One conductor ribbed for identification ↑ Black THERMOPLASTIC jacket

Application: Designed for mine telephone service where induced currents and cross talk must be reduced to a minimum.

Where additional protection is required for important work, direct burial, and rough usage, the jacketed type is recommended.

Where less severe service is encountered, the plain twisted-pair cable is recommended.

Size Awg Solid	Ship. Wt in Lb per 1000 Ft §	Thickness in 64ths Insulation	Thickness in 64ths Sheath	Overall Diam in Inches	Packing
16	82	2	3	.33	1000′ Coils Paper wrapped

TWISTED PAIR

SI-58060

Size Awg Solid	Ship. Wt in Lb per 1000 Feet §	Thickness Insulation in 64ths	Overall Diam in Inches	Packing
16	43	3	.30x.15	1000′ Coils Paper wrapped

↑ No. 16 Awg 40% copperweld ↑ Black THERMOPLASTIC. One conductor ribbed for identification

§ Net weight is approximately ⅛ less.

G-E SERVICE ENTRANCE CABLE

TYPE SE STYLE U—SI-53978

208 Volts Maximum to Ground 60C.

Coated Copper Conductors
Code Insulation
Color-coded Treated Cotton Braid
Cellophane Wrap
Uninsulated Coated Concentric Conductor
Paper Glass Rubber Tape
Flame-retardant Moisture-resistant Cotton Braid

Type SE Style U consists of one or more code-insulated and braided conductors and a concentrically applied uninsulated tinned conductor, protected by a heavy water- and weather-resistant over-all covering. The cellophane wrap over the red conductor facilitates edgewise bending. The over-all cotton braid may be painted if desired.

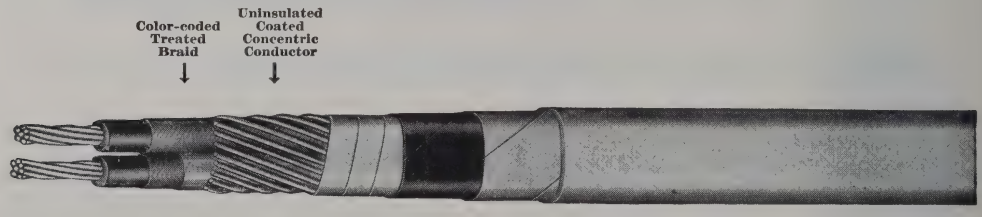
This cable can be installed directly on the outside of the building without conduit protection. Because of its light weight, this cable may also be used on short spans from the pole through to the meter equipment. Listed by the Underwriters' Laboratories, Inc.

Insulated Conductors Size Awg	Uninsulated Concentric Conductor Size Awg.	No. of Strands	Approx. Wt. in Lb. per 1000 Ft.	Current-carrying Capacity in Amps.	Approx. O.D. in Inches	Packing
Type SE Style U—Two Conductors—Round						
8	8	7	192	40	.46	250′ Coil
Type SE Style U—Three Conductors—Oval						
8-2	8	7	311	40	.47x.75	200′ Coil
6-2	8	7	395	55	.51x.82	150′ Coil
6-2	6	7	422	55	.53x.84	150′ Coil
4-2	4	7	628	70	.59x.94	150′ Coil

TYPE SE STYLE A—SI-53976

208 Volts Maximum to Ground Volts 60 C.

THREE CONDUCTOR



Color-coded Treated Braid
Uninsulated Coated Concentric Conductor
Coated Copper Conductors
Code Insulation
Cellophane Wrap
Flat Metal Armor
Paper Glass Rubber Tape
Flame-retardant Moisture-resistant Cotton Braid

For use from the entrance cap to the meter equipment. Can be installed without conduit protection directly on the outside of the building.

Type SE Style A entrance cable is similar in construction to that of Style U, except that it has a flat metal armor applied over the uninsulated tinned concentric conductor for added mechanical protection. The treated over-all cotton braid may be painted if desired.

Listed by Underwriters' Laboratories, Inc.

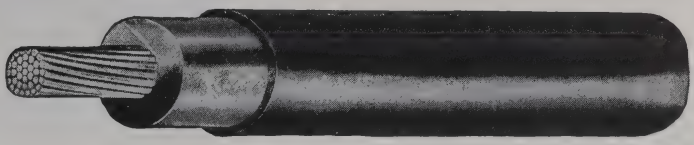
Insulated Conductors Size Awg	Uninsulated Concentric Conductor Size Awg	No. of Strands	Approx Wt in Lb per 1000 Ft	Current-carrying Capacity in Amps	Approx O.D. in Inches	Packing
6-2	6	7	485	55	.55 x .86	150′ Coil

G-E VERSATOL-GEOPRENE

600 VOLTS

SINGLE CONDUCTOR—SI-58006—600 VOLTS

APPLICATION: Can be installed in conduit or ducts, or in open air for wet or dry conditions; meets IPCEA specifications and NEMA Standards. For Underwriters' Laboratories, Inc. see listing below.



CONDUCTOR Suitably coated copper conductor

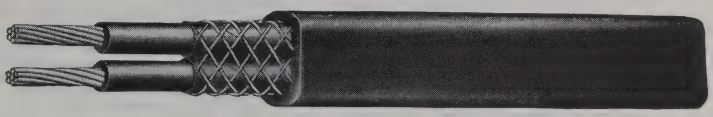
INSULATION—heat-, moisture-resistant and superaging

BONDED The insulation is firmly bonded to the jacket

JACKET Tough, oil-, acid-, alkali-, and sunlight-resistant

TWO CONDUCTOR—FLAT—SI-58002—600 VOLTS—No marking on this cable

APPLICATION: Suitable for direct burial, conduit or duct installations. Underwriters' Laboratories, Inc., listing Type USE, style RR, for sizes No. 10 Awg solid to No. 2 Awg stranded.



CONDUCTORS Suitably coated copper, solid or stranded

INSULATION —heat-, moisture-resistant and superaging

REINFORCEMENT Open fibrous braid

TAPES OR BRAIDS Colored tapes or braids for identification

JACKET Tough, oil-, acid-, alkali-, and sunlight-resistant

THREE CONDUCTOR—SI-58002—600 VOLTS—No marking on this cable

APPLICATION: Suitable for direct burial, conduit or duct installations. Underwriters' Laboratories, Inc. listing Type USE, style RR, for sizes No. 10 Awg solid to 2/0 stranded. Listed as Type A of CAA Spec. L-824 in sizes No. 14 Awg solid to No. 4 Awg stranded.

Three-conductor

Cond. Size Awg or MCM	No. of Strands	SINGLE CONDUCTOR SI-58006 Ship. Wt in Lb per 1000 Ft *	Insulation Thickness in 64ths In.	Jacket Thickness in 64ths In.	Overall Diam. in In.	Conduit Size In. †	Amp per Cond. Type RH 75C‡	Amp per Cond. Type RW 60C‡	TWO-CONDUCTOR SI-58002 Ship. Wt in Lb per 1000 Ft *	Insulation Thickness in 64ths In.	Jacket Thickness in 64ths In.	Approx. Overall Diam. in In.	THREE-CONDUCTOR SI-58002 Ship. Wt in Lb per 1000 Ft *	Insulation Thickness in 64ths In.	Jacket Thickness in 64ths In.	Overall Diam. in In.
14	1	39	3	1	.21	½	13	12	110	3	3	.29x .48	190	3	5	.57
14	7	39	3	1	.22	½	13	12	....	...	...	.....	....	...	...	....
12	1	51	3	1	.23	½	18	16	139	3	3	.31x .52	258	3	6	.64
12	7	51	3	1	.24	¾	18	16	....	...	...	.....	....	...	...	....
10	1	70	3	1	.25	¾	26	25	198	3	4	.36x .59	314	3	6	.69
10	7	70	3	1	.26	¾	26	25	....	...	...	.....	....	...	...	....
8	1	96	4	1	.31	¾	40	33	298	4	4	.42x .71	496	4	6	.81
8	7	115	4	1	.33	1	40	33	....	...	...	.....	....	...	...	....
6	7	185	4	2	.39	1	57	45	421	4	4	.48x .82	740	4	7	.96
4	7	251	4	2	.44	1¼	75	57	605	4	5	.55x .94	1006	4	7	1.06
2	7	351	4	2	.50	1¼	101	78	674	4	5	.61x1.06	1372	4	7	1.19
1	19	489	5	3	.60	1½	114	90	....	...	...	.....	1829	5	8	1.38
0	19	589	5	3	.64	2	132	103	1010	5	6	.75x1.32	2214	5	8	1.47
00	19	703	5	3	.68	2	154	119	1262	5	6	.80x1.42	2536	5	8	1.57
000	19	866	5	3	.74	2	176	135	....	...	...	.....	3040	5	8	1.68
0000	19	1064	5	3	.79	2½	202	160	....	...	...	.....	3670	5	9	1.84
250	37	1298	6	4	.90	2½	224	176								
350	37	1740	6	4	1.01	3	273	213								
500	37	2384	6	4	1.14	3	334	262								
750	61	3275	7	4	1.36	4	418	328								
1000	61	4310	7	4	1.51	4	#480	#373								

*Net weight is approximately ¼ less. Standard Packing. Single-conductor, Sizes 14, 12, 10, 8.6 Awg in 500-ft. coil in carton. Sizes 8, 6, 4, 2 Awg in 500-foot handwrapped coils. All other sizes on 1000-ft. reels. Standard packing has RH labels. If RW or USE labels are required, order should so specify. Minimum Order: 500-ft. sizes, No. 2 Awg and smaller.

†Three insulated conductors per conduit.

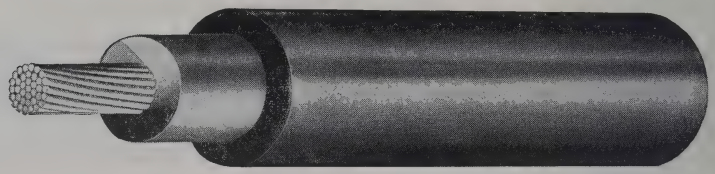
‡Based on three insulated conductors in single enclosed or exposed conduit; 40 C ambient.

#This value is approximate as it depends upon installation conditions. Due to the relatively low current rating of this cable, it is recommended that consideration be given to the use of multiple circuits.

G-E RUBBER-INSULATED, GENERAL PURPOSE CABLE

VERSATOL-GEOPRENE—SINGLE CONDUCTOR—SI-58004, 600 VOLTS

Application: Suitable for aerial, direct burial, conduit or duct installation. Underwriters' Laboratories, Inc. listing Type USE, Style RR. Listed as Type A of CAA spec. L-824 in sizes No. 10 Awg solid to No. 4 Awg stranded.



CONDUCTOR Suitably coated copper conductor

INSULATION —heat-, moisture-resistant and superaging

BONDED The insulation is firmly bonded to the jacket

JACKET Tough, oil-, acid-, alkali-, and sunlight-resistant

This nonmetallic cable is applicable to a variety of uses. Both the insulation and jacket are designed for long life. Versatol is heat-resistant and superaging. Geoprene is tough, oil-, acid-, alkali-, and sun-resistant. Results: a cable that can be buried directly in the ground, pulled into conduit or ducts, or exposed to air and sunlight.

SINGLE CONDUCTOR—SI-58004—600 VOLTS

Cond Size Awg or MCM	Cond No. of Strands	Ship. Wt in Lb per 1000 Ft §	Ins Thickness in 64ths	Jacket Thickness in 64ths	Approx Over-all Diam in In.
14	1	56	3	3	.26
12	1	68	3	3	.28
10	1	93	3	3	.30
8	1	127	4	3	.36
6	7	208	4	3	.42
4	7	262	4	3	.46
2	7	362	4	3	.52
1	19	532	5	4	.63
0	19	620	5	4	.67
00	19	725	5	4	.71
000	19	896	5	4	.77
0000	19	1085	5	4	.82
250	37	1330	6	5	.97
350	37	1770	6	5	1.06
500	37	2470	6	5	1.17

SINGLE CONDUCTOR—SI-58003—3000 VOLTS

8	1	175	7	3	.46
6	7	280	8	4	.57

SINGLE CONDUCTOR—SI-58005—5000 VOLTS

8	1	240	10	4	.58
6	7	325	10	4	.63

§Net weight—approximately 1/6 less.

G-E WELDING CABLE

ARC WELDER ELECTRODE CABLE, SI-58275

The term "welding cable" is understood to refer to the electrode cable (the cable that runs from the welding set to the electrode holder).

Thousands of fine copper wires in rope strands, to give the highest degree of flexibility

Separator

Smooth, tough, long-lived, rubber jacket

Size, Awg.	Strands	Stranding	Ship. Wt., in Lb. per 1000 Feet *	Over-all Diameter in Inches
4	1050	7/3/50/.0063	265	.50
2	1680	7/3/80/.0063	350	.56
1	2121	7/3/101/.0063	445	.63
0	2667	7/3/127/.0063	525	.68
00	3381	7/7/69/.0063	635	.75
000	4263	7/7/87/.0063	765	.82
0000	5460	12/7/65/.0063	945	.90

*Net weight is approximately ⅛th less.

Application

Tough, long-life cable with extreme flexibility facilitate easy manipulation of the electrodes.

Recommended Sizes of Electrode Cable, SI-58275

Nominal Rating of Welder in Amp.	*Recommended Size, Awg. or MCM	Stranding	Diameter of Bare Cond.	†D-C Resistance per 1000 Ft.	‡A-C Impedance per 1000 Ft.
100	4	1050	0.30	0.318	0.321
150	2	1680	0.38	0.196	0.200
200	2	1680	0.38	0.196	0.200
300	0	2695	0.46	0.124	0.129
400	00	3381	0.48	0.095	0.104
500	00	3381	0.48	0.095	0.104
600	000	4284	0.57	0.078	0.086

*For automatic arc welding, cable of the next size larger than indicated above should be used where the duty exceeds that of manual operation.

†At 60 C copper temperature.

‡Based on the assumption that the two leads (electrode and work cables) are taped together.

G-E SUPER CORONOL-GEOPRENE

5000 VOLTS

APPLICATION

Single-conductor, SI-58008, is an ozone-resistant high-voltage cable. Suitable for use in conduit, in open air, in wet or dry locations, or directly buried when used in accordance with IPCEA shielding recommendations. Sizes No. 8, 6, 4 Awg meet CAA Spec. L-824 for Type B insulation.

Three-conductor, SI-58292 (Mine Power) cable was designed to provide a nonmetallic cable for mine bore holes and burying directly in the ground along the right of way. This cable can also be used in industrial plants, central stations, substations, or parks where a 5000-volt, three-conductor circuit is needed.

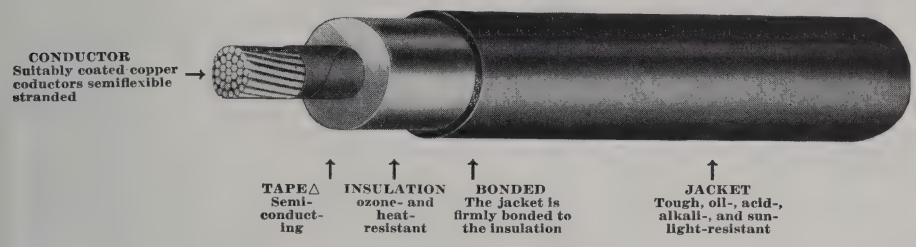
ADVANTAGES

Versatile—This one cable can do the job, whether buried directly or installed in the open.

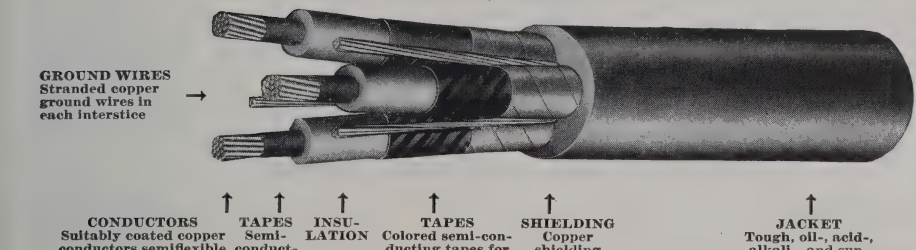
Long Life—Super-Coronol is resistant to ozone, heat and aging. Geoprene is oil-, acid-, alkali-, and sunlight-resistant.

Lightweight—The non-metallic construction results in a lightweight cable, easy to install.

SINGLE-CONDUCTOR, SI-58008—5000 VOLTS



THREE-CONDUCTOR, SI-58292—5000 VOLTS



Cond. Size, Awg or MCM	No. of Strands	SINGLE-CONDUCTOR SI-58008 Ship. Wt in Lb per 1000 Ft *	Jacket Thickness in 64ths In.	Insulation Thickness in 64ths In.	Overall Diam. in In.	Conduit Size, In. †	Amp per Conductor ‡	THREE-CONDUCTOR SI-58292 Ship. Wt in Lb per 1000 Ft *	Insulation Thickness in 64ths	Sheath Thickness in 64ths	Overall Diam. in In.
8	1	225	4	10	.57	1½	46				
8	19	244	4	10	.61	1½	46				
6	1	286	4	10	.61	1½	60				
6	19	305	4	10	.65	2	60	1601	10	8	1.43
4	19	405	4	10	.70	2	80	2005	10	8	1.54
2	19	551	4	10	.76	2	107	2617	10	8	1.67
1	37	631	4	10	.79	2½	122	3187	10	9	1.79
0	37	731	5	10	.87	2½	141	3523	10	9	1.87
00	37	855	5	10	.91	2½	161	4234	10	9	1.97
000	37	1038	5	10	.97	3	186	4998	10	9	2.08
0000	37	1294	5	10	1.02	3	215	5881	10	9	2.21
250	61	1488	5	11	1.10	3	239				
350	61	1925	6	11	1.24	3½	290				
500	61	2638	6	11	1.37	4	357				
750	91	3600	6	11	1.56	4½	442				
1000	91	4812	7	11	1.75	5	507				

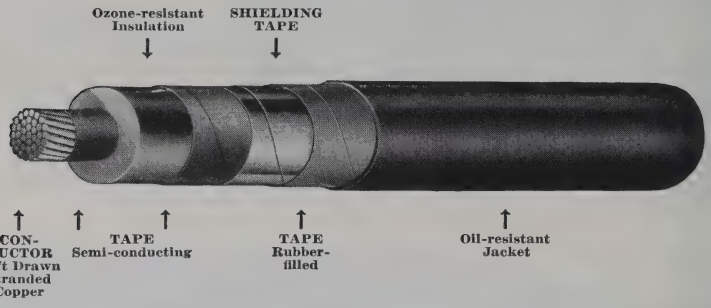
* Net weight is approximately 1/6 less.
† Three insulated conductors per conduit (NEC).
‡ Based on three insulated conductors in single enclosed or exposed conduit; 40 C ambient, 80 C copper temperature.

△ Sizes No. 6 and 8 Awg solid do not have a semi-conducting tape.

G-E RUBBER-INSULATED, GENERAL PURPOSE CABLE

SUPER CORONOL-GEOPRENE SHIELDED

SI-58040—5000 VOLTS



APPLICATION

Ozone-resistant high-voltage cable suitable for direct burial or for use in conduits, or open air for wet or dry conditions.

Footnotes:

† Net weight approximately ⅛ less.

‡ Three insulated conductors per conduit (NEC).

§ Based on three insulated conductors in single enclosed or exposed conduit; 40 C ambient, 80 C copper temperature.

Cond Size Awg or MCM	Cond No. of Strands	Ship. Wt in Lb per 1000 Ft †	Insulation Thickness in 64ths	Jacket Thickness in 64ths	Approx Overall Diam in In.	Conduit Size, In. ‡	Amp per Cond §
8	19	244	10	4	.67	2	46
6	19	305	10	4	.71	2	60
4	19	405	10	4	.76	2	80
2	19	551	10	4	.82	2½	107
1	37	631	10	5	.89	2½	122
0	37	731	10	5	.92	2½	141
00	37	855	10	5	.97	3	161
000	37	1038	10	5	1.03	3	186
0000	37	1294	10	5	1.08	3	215
250	61	1488	11	5	1.16	3	239
350	61	1925	11	6	1.30	3½	290
500	61	2638	11	6	1.43	4	357
750	91	3600	11	6	1.62	4½	442
1000	91	4812	11	7	1.81	5	507

G-E SUPER CORONOL-GEOPRENE SHIELDED

SI-58040 — 15,000 VOLTS GROUNDED NEUTRAL

SI-58040 — 15.000 VOLTS UNGROUNDED NEUTRAL

Illustration: Same as above.

Application: Ozone-resistant high-voltage cable suitable for direct burial or for use in conduits, or open air for wet or dry conditions.

SI-58040—15,000 VOLTS GROUNDED NEUTRAL

Cond Size Awg or MCM	Cond No. of Strands	Ship. Wt in Lb per 1000 Ft †	Insulation Thickness in 64ths	Jacket Thickness in 64ths	Approx Overall Diam in In.
4	19	773	19	5	1.07
2	19	1008	19	5	1.13
1	37	1110	19	5	1.17
1/0	37	1285	19	6	1.24
2/0	37	1445	19	6	1.29
3/0	37	1645	19	6	1.34
4/0	37	1865	19	6	1.40
250	61	2064	19	6	1.45
300	61	2318	19	6	1.50
350	61	2551	19	6	1.55
500	61	3282	19	6	1.69
600	91	3778	19	7	1.80
750	91	4505	19	7	1.90

SI-58040—15,000 VOLTS UNGROUNDED NEUTRAL

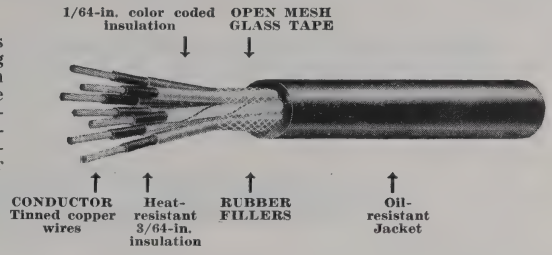
Cond Size Awg or MCM	Cond No. of Strands	Ship. Wt in Lb per 1000 Ft †	Insulation Thickness in 64ths	Jacket Thickness in 64ths	Approx Overall Diam in In.
4	19	1279	27	6	1.36
2	19	1456	27	6	1.42
1	37	1576	27	6	1.46
1/0	37	1699	27	6	1.50
2/0	37	1878	27	6	1.54
3/0	37	2095	27	6	1.59
4/0	37	2326	27	6	1.65
250	61	2596	27	7	1.73
300	61	2868	27	7	1.78
350	61	3080	27	7	1.84
500	61	3892	27	7	1.97
600	91	4379	27	7	2.05
750	91	5126	27	7	2.16

† Net weight approximately ⅛ less.

G-E RUBBER-INSULATED, GENERAL PURPOSE CABLE

VERSATOL-GEOPRENE CONTROL CABLE—SI-58135—600 VOLTS

For important control circuits. (1) Leads from temperature-recording devices on rotating equipment to the switchboard. (2) Leads from current and potential transformers to the switchboard. (3) Motor leads. (4) Any multiple-conductor cable for application with current requirements within the limits shown below. Can be installed in open air, in ducts or conduit or buried in earth.



No. of Conds	Ship. Wt in Lb per 1000 Ft§	Jacket Thickness in 64ths	Approx Over-all Diam in In.	Color Code: Color of Jacket on Singles	Color Code: Color of Stripe
19/25 (Approx No. 12 Awg) Jacketed—SI-58135					
1	70	3△	.29	Black	----------
2	184	3	.34 x .57	White	----------
3	372	6	.70	Red	----------
4	446	6	.76	Green	----------
5	538	6	.82	Orange	----------
6	665	7	.92	Blue	----------
7	754	7	.92	White	Black
8	798	7	.99	Red	Black
9	908	7	1.06	Green	Black
10	990	7	1.14	Orange	Black
12	1054	7	1.17	Black	White

No. of Conds	Ship. Wt in Lb per 1000 Ft§	Jacket Thickness in 64ths	Approx Over-all Diam in In.	Color Code: Color of Jacket on Singles	Color Code: Color of Stripe
19/22 (Approx No. 9 Awg) Jacketed — SI-58135					
1	101	3△	.33	Black	----------
2	277	4	.41 x .68	White	----------
3	500	6	.78	Red	----------
4	616	6	.85	Green	----------
5	773	7	.95	Orange	----------
6	914	7	1.03	Blue	----------
7	940	7	1.03	White	Black
8	1104	7	1.11	Red	Black
9	1265	7	1.19	Green	Black
10	1434	8	1.32	Orange	Black
12	1582	8	1.35	Black	White

§Net weight is approximately ⅛ less.
△Total Geoprene thickness.

Current-carrying Capacity and Resistance

No. 19/25 (approximately No. 12 Awg) has a current-carrying capacity of 15 amperes and a resistance of 1.8 ohms per 1000 ft.

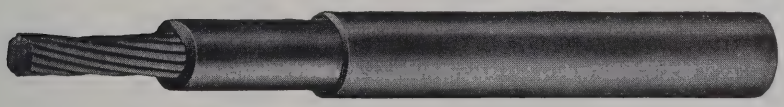
No. 19/22 (approximately No. 9 Awg) has a current-carrying capacity of 25 amperes and a resistance of .86 ohms per 1000 ft.

Identification

No braids are used over the insulation for identification. Colored neoprene is used instead and spiraled stripes on the neoprene which correspond to NEMA colored tracers are applied to the individual conductors where necessary.

G-E SUPER CORONOL-LEADED—SINGLE CONDUCTOR

SI-58010—5000 VOLTS



APPLICATION

Power circuits, in conduit or ducts, where lead finish is desired, such as pole risers where exposed to lightning surges; or where grounding protection is desired for safety to personnel, such as in manholes or open tunnels.

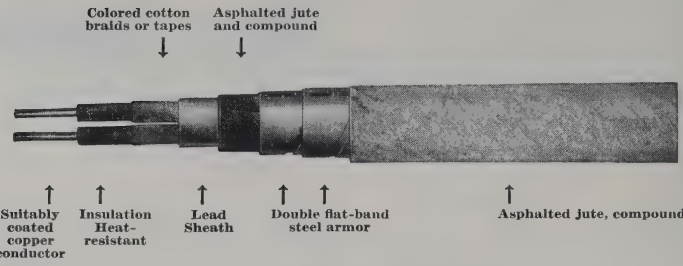
Cond Size Awg	Cond No. of Strands	Ship. Wt in Lb per 1000 Ft †	Insulation Thickness in 64ths	Lead Thickness in 64ths	Approx Overall Diam in In.	Conduit Size In. ‡	Amp per Cond §
4	19	1086	10	4	.71	2.0	80
00	37	1997	10	5	.92	3.0	161

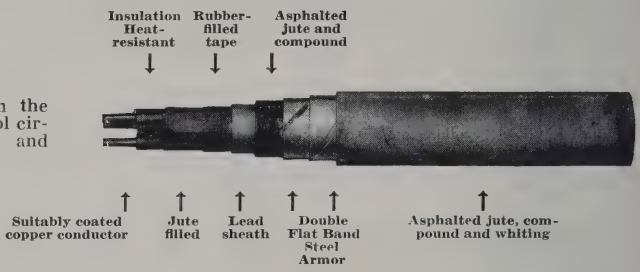
† Net weight approximately ⅛ less.
‡ Three insulated conductors per conduit (NEC).
§ Based on three insulated conductors in single enclosed or exposed conduit; 40 C ambient.

G-E RUBBER-INSULATED, GENERAL PURPOSE CABLE

ARMORED PARKWAY CABLE

TYPE RLJFJ—SI-58261—600 VOLTS





Application: For direct burial in the ground on power, lighting and control circuits by industrial, transportation, and electric service companies.

Size Awg	Ship. Wt in Lb per 1000 Feet §	Inches Thickness in 64ths	Overall Diam in In. ¶	Amp for Direct Burial 20 C Earth Ambient
Two-Conductor Flat-Twin—SI-58261				
Solid				
14	683	3	.72	
12	750	3	.88	
10	1002	3	.95	See
8	1264	4	1.08	Note
6	1432	4	1.14	Below ■
Str.				
6	1531	4	1.19	
4	2062	4	1.31	
2	2718	4	1.50	

Size Awg	Ship. Wt in Lb per 1000 Feet §	Inches Thickness in 64ths	Overall Diam in In. ¶	Amp for Direct Burial 20 C Earth Ambient
Three-Conductor—SI-58261				
Solid				
14	1218	3	.94	30
12	1334	3	.97	40
10	1471	3	1.02	50
8	1850	4	1.16	67
6	2418	4	1.26	84
Str.				
6	2552	4	1.30	84
4†	3360	4	1.47	109
2†	4044	4	1.60	142
0†	5712	5	1.88	181
00†	6360	5	1.91	208

§ Net wt is approx ¼th less.

¶ Major dimensions of flat-twin.

† Has .030-in. plain steel tapes. All others have .020-in. tapes.

■ For conservative ampere capacities use the above 3-conductor ratings.

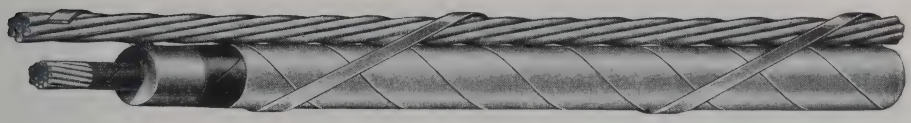
Application: Armored parkway cable (Type RLJFJ) is built to withstand severe mechanical abuse. This type of cable is recommended for the same general types of application as nonmetallic cable, but it is built to withstand much more severe mechanical abuse during the installation and operation of the cable. Since this cable is protected by a magnetic armor the armor bases are from 20 to 40% greater than they are for non-magnetic armored types.

Advantages: This cable is resistant to weather conditions, is not affected by frost, and therefore, when buried in the ground need not be laid more than 12 or 18 inches under the surface except where traffic is heavy. For example, at street intersections or under roadways, the cable should be buried at least 30 inches deep.

This cable is easily installed in open trenches or plowed into the ground with a special cable plow.

G-E PREASSEMBLED AERIAL CABLE

SINGLE CONDUCTOR—SHIELDED—SI-58015—5 Kv



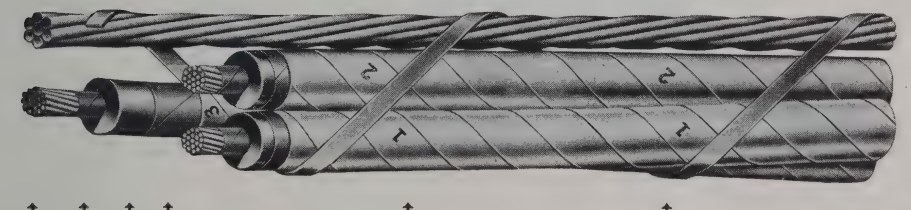
Application—For use on a variety of aerial cable installations—power circuits—control circuits, or communication circuits, etc.

*Net weight is approximately 1/6 less.

‡Max. Sag at 60 F 3 ft. See following page for messenger nomenclature.

Size Awg	No. of Strands	Insulation Thickness in 64ths Inches	Approx. O.D. Inches	Ship Wt. in Lb. per 1000 Ft *	Mess. Size Heavy Loading Span 150 Ft‡
6	19	10	.61 x .92	566	3x #7
4	19	10	.66 x 1.01	708	4D
2	19	10	.72 x 1.05	822	2J
1	37	10	.76 x 1.09	901	1J
1/0	37	10	.80 x 1.16	1089	2/0-HD
2/0	37	10	.85 x 1.26	1315	3/0-HD
3/0	37	10	.90 x 1.36	1646	3/0-HD
4/0	37	10	.96 x 1.48	1941	4/0-HD

THREE CONDUCTOR—SHIELDED—SI-58015



Three-Conductor — Shielded — 5-KV — SI-58015

Size Awg	No. of Strands	Insulation Thickness in 64ths Inches	Approx. O.D. Inches	Ship Wt in Lb per 1000 Ft*	Mess Size Heavy Loading Span 150 Ft‡
6	19	10	1.24 x 1.55	1378	5/16
4	19	10	1.35 x 1.66	1820	5/16
2	19	10	1.48 x 1.79	2018	5/16
1	37	10	1.56 x 1.95	2440	5/16
1/0	37	10	1.65 x 2.04	2618	5/16
2/0	37	10	1.75 x 2.14	3239	3/8
3/0	37	10	1.86 x 2.25	3769	3/8
4/0	37	10	1.98 x 2.43	4355	3/8

*Net weight is approximately 1/6 less.

‡Max. Sag at 60 F 3 ft. See a following page for nomenclature.

Three-Conductor — Shielded — 7.5-KV — Grounded Neutral — SI-58015

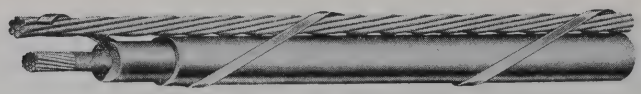
Size Awg	No. of Strands	Insulation Thickness in 64ths Inches	Approx. O.D. Inches	Ship Wt in Lb per 1000 Ft*	Mess Size Heavy Loading Span 150 Ft‡
6	19	12	1.38 x 1.69	1534	5/16
4	19	12	1.50 x 1.81	1980	5/16
2	19	12	1.62 x 1.93	2510	5/16
1	37	12	1.70 x 2.09	2875	5/16
1/0	37	12	1.78 x 2.17	3255	5/16
2/0	37	12	1.88 x 2.27	3850	3/8
3/0	37	12	2.00 x 2.39	4400	3/8
4/0	37	12	2.12 x 2.56	4976	3/8

Three-Conductor — Shielded — 15-KV — Grounded Neutral — SI-58015

4	19	19	1.96 x 2.27	2626	5/16
2	19	19	2.10 x 2.49	2948	5/16
1	37	19	2.18 x 2.57	3453	3/8
1/0	37	19	2.26 x 2.65	3876	3/8
2/0	37	19	2.36 x 2.75	4244	3/8
3/0	37	19	2.47 x 2.91	5010	7/16
4/0	37	19	2.60 x 3.04	5621	7/16

G-E PREASSEMBLED AERIAL CABLE

SINGLE CONDUCTOR—GEOPRENE—5-KV—SI-58016



1. **Conductor**—Suitably Coated Copper Conductor.
2. **Tape**—Semi-conducting.
3. **Insulation**—Ozone-resistant.
4. **Jacket**—Oil-, acid-, alkali- and sunlight-resistant.
5. **Binding Strip**—Copper.
6. **Messenger**—Copperweld.

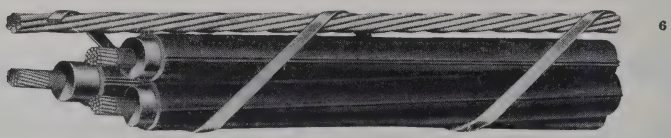
Application—For use on a variety of aerial cable installations—power circuits, control circuits, or communication circuits.

Size Awg	No. of Strands	Thickness in 64ths: Insulation	Thickness in 64ths: Jacket	Approx. O.D. Inches	Ship Wt in Lb. per 1000 Ft *	Mess. Size Heavy Loading Span 150 Ft †
6	19	10	4	.69 x .99	624	3x#7
4	19	10	4	.74 x 1.09	885	4D
2	19	10	4	.80 x 1.13	915	2J
1	37	10	4	.84 x 1.17	1007	1J
1/0	37	10	5	.91 x 1.28	1252	2/0-HD
2/0	37	10	5	.95 x 1.36	1544	3/0-HD
3/0	37	10	5	1.01 x 1.47	1910	3/0-HD
4/0	37	10	5	1.1 x 1.53	2169	4/0-HD

*Net weight is approximately 1/6 less.

†Max. Sag at 60 F 3 ft. See table for messenger nomenclature.

THREE CONDUCTOR—GEOPRENE—5-KV—SI-58016



1. **Conductor**—Suitably Coated Copper Conductor.
2. **Tape**—Semi-conducting on each conductor.
3. **Insulation**—Ozone-resistant.
4. **Jacket**—Oil-, acid-, alkali- and sunlight-resistant.
5. **Binding Strip**—Copper.
6. **Messenger**—Copperweld.

Application—For use on a variety of aerial cable installations—power circuits, control circuits, or communication circuits.

Size Awg	No. of Strands	Thickness in 64ths: Insulation	Thickness in 64ths: Jacket	Approx. O.D. Inches	Ship. Wt in Lb. per 1000 Ft*	Mess. Size Heavy Loading Span 150 Ft
6	19	10	4	1.35 x 1.65	1360	5/16
4	19	10	4	1.52 x 1.83	1654	5/16
2	19	10	4	1.65 x 1.96	2050	5/16
1	37	10	4	1.74 x 2.13	2465	5/16
1/0	37	10	5	1.88 x 2.27	2884	5/16
2/0	37	10	5	1.98 x 2.37	3373	3/8
3/0	37	10	5	2.10 x 2.49	3891	3/8
4/0	37	10	5	2.21 x 2.66	4643	3/8

*Net weight is approximately 1/6 less.

†Max. sag at 60 F 3 ft. See table for nomenclature.

Each conductor has two sets of ribs, spaced 180° apart.

MESSENGER NOMENCLATURE

4D —Three strands of .162" 30% Copperweld, extra high strength plus one strand of .162" hard drawn wire.

2J —Three strands of .116" 30% Copperweld, extra high strength plus four strands of .116" hard drawn wire.

1J —Three strands of .131" 30% Copperweld, extra high strength plus four strands of .131" hard drawn wire.

3X#7—Three strands of #7 AWG 30% Copperweld.

HD —Hard Drawn Copper.

Ultimate Breaking Strength for Messengers

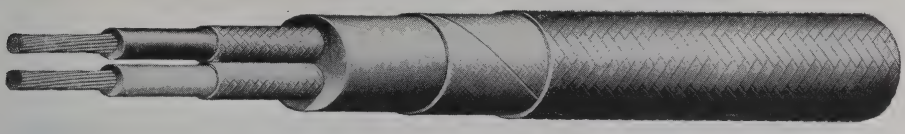
Size Inches or Awg	Diameter Inches	Weight Lb/Ft	Strength — Lb Extra High 30% Copperweld
Copperweld Messenger			
4D	.348	.226	7,340
2J	.349	.280	7,322
1J	.392	.353	9,000
3 x 7	.311	.175	7,922
5/16	.306	.204	9,196
3/8	.385	.324	13,890
7/16	.433	.408	16,890
Galvanized Steel Messenger (Utility Grade)			
5/16	.327	.225	6,000
3/8	.360	.273	11,500
7/16	.435	.399	18,000
1/2	.495	.517	25,000
Hard Drawn Copper Messenger			
2 (7 str)	.292	.205	3,045
1 (7 str)	.328	.258	3,804
0 (7 str)	.368	.326	4,750
00 (7 str)	.414	.411	5,927
000 (7 str)	.464	.518	7,366
0000 (19 str)	.528	.653	9,617

Maximum allowable working tension usually taken as 50% of ultimate breaking strengths given in above tables.

G-E RUBBER INSULATED, GENERAL PURPOSE CABLE

POLE AND BRACKET CABLE—BELTED TYPE—SI-58270

Application—Ornamental pole wiring.



Stranded tinned copper conductors | **Heat-resistant insulation** | **Saturated cotton braid** | **Heat-resistant insulation** | **Compound-filled tape** | **Flame-, moisture- and weather-resistant cotton braid**

Application—Pole and bracket cable is for use between lighting fixtures and pole base inside an ornamental pole, or for use between fixtures and overhead circuit.

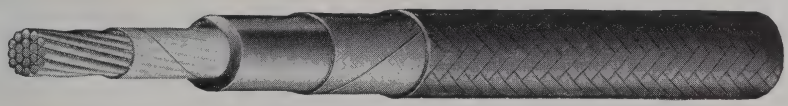
The voltage rating of the cable to be used is determined by the open circuit voltage of the series street-lighting transformer.

Voltage Rating to Ground	Size Awg	Ship. Wt in Lb per 1000 Ft §	No. of Strands	Thickness of Insulation on Conductor and Belt in 64ths	Approx Over-all Diam in In.	Pack
0-6000	8	577	19	3 x 6	.84	1000′ Reels

§Net wt is approx ⅙ less.

CAR WIRING CABLE—SI-58283—600 VOLTS

Application—Designed especially for the wiring of trolley cars, electric buses, passenger cars, and locomotives.



CONDUCTOR Tinned copper wires Extra-flexible stranding. | **SEPARATOR** Used only on sizes 150/24 and larger. | **Heat-resistant Insulation** | **TAPE** Rubber-filled. | **BRAID** Heavy, closely woven cotton yarn, saturated and finished with flame-retardant and moisture-resistant compounds.

Listed by Underwriters' Laboratories, Inc.

Approx Equivalent Size Awg or MCM	Conductor (Stranding)	Ship Wt in Lb per 1000 Feet §	Max Over-all Diameter in Inches
Extra-Flexible Stranding—SI-58283			
14‡	19/26	42	.23
12‡	19/25	53	.24
11‡	19/24	62	.26
10‡	27/24	79	.28
8‡	37/24	98	.30
6†	61/24	168	.42
5	91/24	220	.45
3	125/24	294	.49
2	150/24	354	.56
1	225/24	517	.67
0	275/24	603	.70
00	325/24	695	.75
000	450/24	918	.84
0000	550/24	1084	.87
250	650/24	1321	.98
300	775/24	1543	1.06
400	925/24	1799	1.11
450	1100/24	2100	1.19
550	1325/24	2518	1.32
650	1600/24	3001	1.41
800	1925/24	3527	1.47
900	2300/24	4145	1.63
1000	2750/24	4980	1.77

†Double braid instead of tape and braid. ‡Single braid, no tape. §Net weight approx 1/6 less.

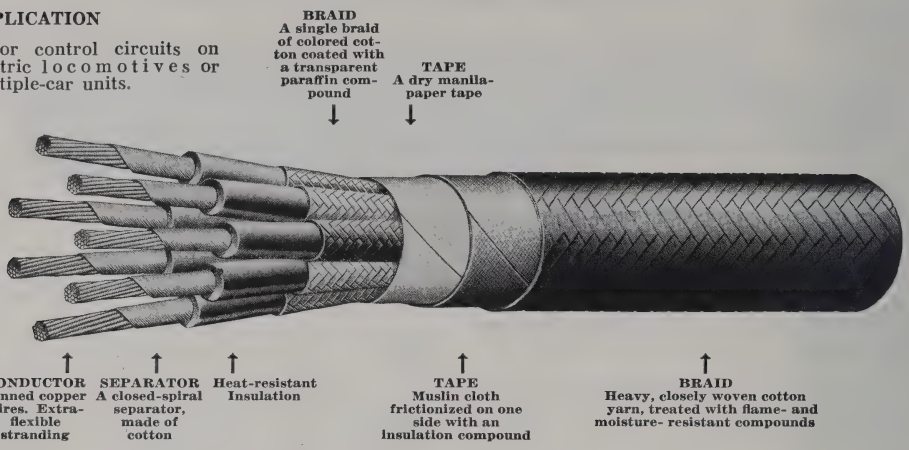
Application—This type of cable is designed for the wiring of trolley cars, electric buses, passenger cars, and locomotives. In the larger sizes it is used for power circuits; in the smaller, for lighting; and in size 19/25, for control circuits.

G-E RUBBER INSULATED, GENERAL PURPOSE CABLE

TRAIN CONTROL CABLE—SI-58284—600 VOLTS

APPLICATION

For control circuits on electric locomotives or multiple-car units.


BRAID
A single braid of colored cotton coated with a transparent paraffin compound
TAPE
A dry manila-paper tape
CONDUCTOR
Tinned copper wires. Extra-flexible stranding
SEPARATOR
A closed-spiral separator, made of cotton
Heat-resistant Insulation
TAPE
Muslin cloth frictionized on one side with an insulation compound
BRAID
Heavy, closely woven cotton yarn, treated with flame- and moisture- resistant compounds

Application:—G-E train cable has been used for years in wiring control circuits on G-E locomotives. Improvements — such as the use of longer-lived insulations and more durable materials for finishes — have, of course, been made as the industry has progressed, but essentially the design is one that has given satisfactory service for many years.

Advantages:—The stranding is for flexibility and for minimizing any possibility of crystallization of the copper that might be caused by the vibration of the car.

The insulation has excellent heat and moisture-resistant properties, coupled with extra long life.

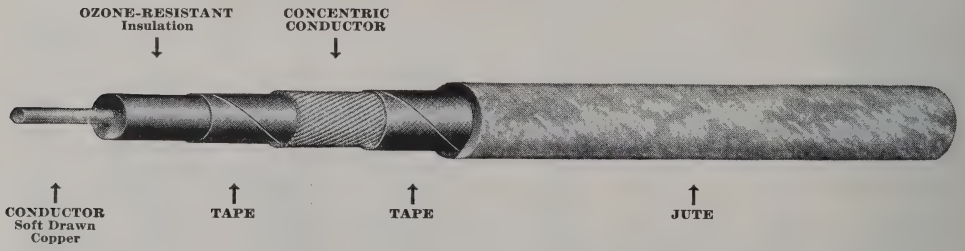
The finish minimizes the possibilities of flame traveling along the surface of the cable. It also has a smooth surface that reduces the force required to pull the cable into conduit.

No. of Conductors	Shpg. Wt. in Lb. 1000 Ft. §	Over-all Diameter in Inches	No. of Conductors	Shpg. Wt. in Lb. 1000 Ft. §	Over-all Diameter in Inches
4	254	.64	10	584	.94
5	305	.71	12	685	1.03
6	363	.76	16	889	1.13
7	398	.82	20	1101	1.29
9	526	.88	----	--------	------

§ Net weight is approx. ⅛ less.

SPORTS AREA LIGHTING CABLE

SI-58013—5000 Volts—Two-Conductor Concentric



Application

For sports area lighting projects requiring an inexpensive type of cable having grounding protection and suitable for direct burial.

Footnotes:

† Based on one cable per trench, 20 C earth ambient. Multiply by .95 for 25 C earth ambient. Multiply by .90 for 30 C earth ambient.

§ Net weight: approximately ⅛ less.

Insulated Conductor Size Awg	Concentric Conductor No. of Strands	Concentric Conductor Size Awg (41 Strands)	Ship. Wt in Lb per 1000 Ft §	Insulation Thickness in 64ths	Overall Diam in In.	Approx. Amp per Cond †
6	1	6	516	10	.70	102
4	19	4	623	10	.79	129
2	19	2	736	10	.87	161

G-E TYPE S RUBBER-JACKETED CORD
SI-53028
600 VOLTS

Bare‡ Copper — Cotton‡ Separator — Rubber Insulation — Jute Fillers — Cotton‡ Braid — Rubber Jacket

G-E Type S Rubber-Jacketed Cord is a tough, durable portable cord designed for heavy-duty service. It is flexible, resilient, and resistant to acids, alkalies and water.

The stranded conductors are insulated with rubber compound over a cotton wrap. Jute fillers furnish a flexible, firm cushion for the conductors and help to round out the contour of the cord. The conductors and fillers are covered by a cotton braid to strengthen the entire assembly. This, in turn, is covered by an outer jacket of rubber.

G-E Type S Rubber Cords are available with either two, three or four conductors. They are recommended for use on heavy-duty electrical equipment, on railroad and docks, and in garages and factories. Listed by Underwriters' Laboratories.

Size Awg.	Cond.	No. of Strands	Approx. O.D. in Inches	Weight Per 1000 Ft.	Current-Carrying Capacity in Amp.	Packing
18‡	2	41	.39	69	7	250′ Spools two per carton
16‡	2	65	.41	77	10	
14	2	84	.53	128	15	250′Coils paper wrapped
12	2	84	.61	175	20	
10	2	105	.64	201	25	
8†	2	133	.76	323	35	
18‡	3	41	.41	80	7	250′ Coils paper wrapped
16‡	3	65	.43	95	10	
14	3	84	.56	155	15	
12	3	84	.64	204	20	
10	3	105	.69	257	25	
8†	3	133	.79	405	35	
18‡	4	41	.44	94	5.6△	250′ Coils paper wrapped
16‡	4	65	.49	116	8△	
14	4	84	.61	189	12△	
12	4	84	.67	250	16△	
10	4	105	.75	330	20△	
8†	4	133	.86	515	28△	

†Not subject to Underwriters' Laboratories Label Service.

‡Sizes No. 18 and 16 Awg have tinned conductors, no separator and a cotton wrap under the jacket. All other sizes constructed as shown above.

△If one or more conductors do not carry current, the current-carrying capacity of the cable may be increased to that shown for the corresponding 3-conductor cable.

G-E TYPE SJ RUBBER-JACKETED CORD
CONSTANT SERVICE SI-53184
STATIONARY SERVICE SI-53186
300 VOLTS

Stranded Tinned Copper — Rubber Insulation — Jute Fillers — Cotton Wrap — Rubber Jacket

G-E Type SJ Rubber-Jacketed Cord provides rugged, dependable service for medium-duty applications. It is lightweight, flexible, and resistant to acids, alkalies and water.

Its construction is exactly the same as that of Type S Cord except for its lighter over-all jacket. It is available in two or three conductors, and is listed by the Underwriters' Laboratories. This cord is recommended for household appliances, office machines, portable tools and other medium-duty applications.

For constant service, specify SI-53184, if service is to be stationary, use SI-53186.

Size Awg.	Cond.	No. of Strands	Approx. O.D. in Inches	Weight Per 1000 Ft.	Current-Carrying Capacity in Amp.	Standard Package
SI-53184						
18	2	41	.30	46	7	250′ Spools four per carton
16	2	65	.33	56	10	
18	3	41	.33	60	7	250′ Coils one per carton
16	3	65	.36	75	10	
SI-53186						
18	2	16	.30	46	7	Long random Length Coils or Reels
16	2	26	.33	56	10	
18	3	16	.33	60	7	
16	3	26	.36	75	10	

G-E TYPE SV RUBBER-JACKETED CORD

SI-53205 300 VOLTS

G-E Type SV Rubber-jacketed Cord is lighter in weight and smaller in diameter than Type S and SJ Rubber Cords but is constructed in the same manner. The stranded copper conductors are insulated with rubber compound over a cotton wrap. A jute filler protects the conductors and rounds out the contour of the cord. The conductor assembly is enclosed in a cotton wrap over which the rubber jacket is applied.

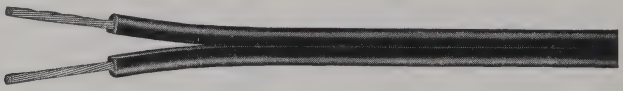
This light-duty cord is designed particularly for use on vacuum cleaners, food mixers, office equipment and similar light-duty applications and is listed by Underwriters' Laboratories.

Size Awg.	Cond.	No. of Strands	Overall Dimensions in Inches	Approx. Wt. in Lb. per M Ft.	Packing
18	2	41	0.25	32	250′ spool 4 per carton

•4/carton.

G-E TYPE POT FLAMENOL RIP CORD

SI-53177 300 VOLTS



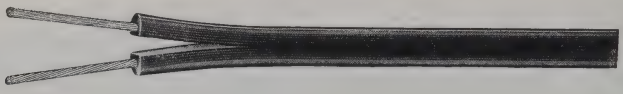
G-E Flamenol Rip Cords have a smooth, attractive finish that will not deteriorate or change color. The conductors are integrally insulated with a thermoplastic compound, and each flat surface is centrally grooved to permit easy separation of the insulated conductors.

These cords are available in three colors — black, brown and ivory. They are recommended for use on table and floor lamps, radios, fans, and other small devices. Listed by Underwriters' Laboratories.

U L Type	Size Awg.	Cond.	No. of Strands	Approx. O. D. in Inches	Weight Per 1000 Ft.	Packing
POT-64	18	2	41	.12 x .22	24	250′ Spool four per carton
POT-32	16	2	65	.16 x .30	44	

G-E TYPE POSJ RUBBER RIP CORD

SI-53238 300 VOLTS



G-E Type POSJ Rubber Rip Cord is a parallel type flexible cord. The extra-flexible stranded copper conductors are integrally insulated with rubber compound and each flat surface is centrally grooved to permit easy separation of the insulated conductor.

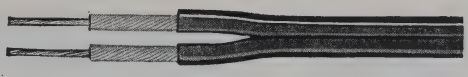
The flexibility of POSJ cords make them ideal for light-duty applications in damp locations and for table and floor lamps, clocks, radios, small devices, etc. Available in black and brown. Listed by Underwriters' Laboratories, Inc.

U L Type	Size Awg.	Cond.	No. of Strands	Approx. O. D. in Inches	Weight Per 1000 Ft.	Packing
POSJ-64	18	2	41	.12 x .22	22	250′ Spool four per carton
POSJ-32	18	2	41	.15 x .28	30	
POSJ-32	16	2	65	.16 x .30	40	

G-E PreenX HEATER CORD

SI-53250—300 VOLTS, 3000-CYCLE CORD

U.L. Approved for 90 C (194 F) **Parallel Cord, Centrally Cut and Rib-Coded**



↑ Bare Stranded Copper Conductor ↑ Cotton Wrap ↑ Insulation Jacket

PreenX heater cord is completely moisture-resistant — has a smooth, rubber-like appearance which does not attract lint, stays clean, and is resistant to discoloration and staining. This cord defies abrasion and annoying kinking — is completely water-, oil- and grease-resistant. Since it is rib-coded and centrally cut, it is easy to strip, and easy to connect to small appliances, such as soldering irons, toasters, waffle irons, coffee makers, etc. Available in black or brown color.

Size	Stranding	Insulation	Current Carrying Capacity	O.D. Inches	Spools Feet
18/2	41/.0063	3/64	10	.18x.32	250
16/2	65/.0063	3/64	15	.20x.36	250

G-E GEOPRENE PORTABLE CORDS

TYPE SO GEOPRENE CORD

600 VOLTS SI-53158

↑ Bare‡ Copper ↑ Cotton‡ Separator ↑ Rubber Insulation ↑ Jute Filler ↑ Cotton‡ Braid ↑ Oil-resistant Jacket

G-E Type SO Geoprene Portable Cord is outstanding in resistance to sunlight, oil, water, acids, alkalies and heat. It is designed for heavy-duty use in industrial plants, service stations, garages, packing houses, chemical plants, soap factories, etc.

Listed by Underwriters' Laboratories, Inc.

‡Sizes No. 18 and 16 Awg have tinned conductors, no separator and a cotton wrap under the jacket. All other sizes constructed as shown above.

△If one or more conductors do not carry current, the current carrying capacity of the cable may be increased to that shown for the corresponding 3-conductor cable.

Size Awg	No. of Cond.	No. of Wires	Approx. O.D. in Inches	Ship. Wt. Lb. per 1000 Ft	Current-carrying Capacity in Amp.	Packing
18	2	41	.39	80	7	250′ spools
16	2	65	.41	87	10	two per carton
14	2	84	.53	147	15	
12	2	84	.61	197	20	
18	3	41	.41	90	7	
16	3	65	.43	106	10	250′ coils
14	3	84	.56	175	15	paper
12	3	84	.64	223	20	wrapped
18	4	41	.44	103	5.6△	
16	4	65	.49	126	8△	
14	4	84	.61	211	12△	

TYPE SJO GEOPRENE CORD

300 VOLTS SI-53162

↑ Stranded Tinned Copper ↑ Rubber Insulation ↑ Jute Fillers ↑ Cotton Warp ↑ Oil-resistant Jacket

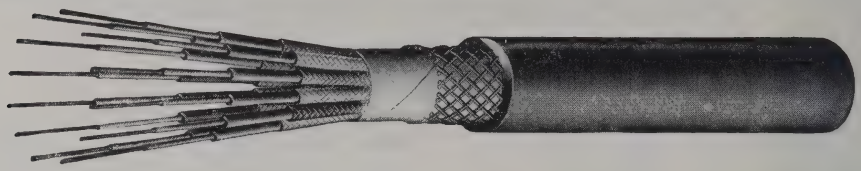
G-E Type SJO Geoprene Portable Cord is similar in construction to Type SO Cord except that it is designed for medium-duty applications. It is resistant to sunlight, oil, water, acids, alkalies and heat. It is recommended for household appliances, office machines, portable tools and other medium-duty applications.

Listed by Underwriters' Laboratories.

Size Awg	No. of Cond.	No. of Wires	Approx. O.D. in Inches	Ship. Wt. Lb. per 1000 Ft	Current-carrying Capacity in Amp.	Packing
18	2	41	.30	48	7	250′ spools
16	2	65	.33	58	10	four per carton
18	3	41	.33	62	7	250′ coil in a carton

G-E GEOPRENE PORTABLE CONTROL CABLE

MULTIPLE-CONDUCTOR, SI-58274—600 VOLTS



Application

For connection between the control panels and portable push-button stations on large machine tools, the cable should be flexible to allow easy handling of the push-button station, as well as being able to withstand the mechanical abuse to which such a portable cable is subjected. The most flexible cable is obtained by using a jute core. A high-grade tough jacket offers maximum resistance to mechanical abuse.

Conductor Size	Number of Conductors	Ship. Wt. in Lb. per 1000 Ft. *	Over-all Diameter in Inches
16 Awg. (65/0.0063 in.)	6	334	.66
	9	448	.84
	12	552	.84
	16	618	.95
	20	762	1.05
	24	959	1.10

*Net wt. is approx. ⅛ less.

Current Carrying Capacity

Not more than 3 conductors carrying current ..... 10 amps
Four to six conductors carrying current ..... 8 amps
Six to nine conductors carrying current ..... 7 amps

Resistance Per Conductor—Approximately 4.3 ohms per 1000 feet.

G-E GEOPRENE PORTABLE CABLE

LOCOMOTIVE AND MINING MACHINE CABLE—600 VOLTS

Single-Conductor, SI-58267

Conductor Tinned copper wire Extra-flexible rope stranding
Rubber Insulation
Reinforcement Strong twine
Oil-resistant Jacket

Application

Single-conductor, primarily intended for cable reels of mine gathering locomotives.

Tough, smooth, and flexible. Resistant to oil, acids, alkalies, and sunlight. The jacket has more than twice the tear resistance of most crude- rubber jackets. Also flame-resistant. Carries State of Pennsylvania **flame-resistance approval** P-108.

Size Awg.	No. of Wires	Ship. Wt. Lb. per 1000 Feet *	Over-all Diam. in Inches (Nominal)	Current Rating, Amperes 40 C Ambient †
6	49	262	.50	60
4	133	327	.56	85
3	133	388	.62	95
2	133	454	.65	110
1	133	577	.73	130
0	133	633	.75	150
00	259	751	.80	175
0000	427	1114	.93	235

*Net wt. is approx. ⅛ less.

†For other ambients and cable wound on reels, see next page.

G-E GEOPRENE PORTABLE CABLES

LOCOMOTIVE AND MINING MACHINE CABLE—600 VOLTS

Two-Conductor—600 Volts—SI-58268—Flat

↑ **Conductor** Tinned copper wire. Extra-flexible rope stranding.

↑ **Rubber Insulation** Col. rubber on No. 2 Awg and smaller. Col. tapes on No. 1 Awg. and larger.

↑ **Reinforcement** Neoprene fillers and fibre glass braid.

↑ **Oil-resistant Jacket.**

Application

The most common uses for two-conductor cables are: on portable d-c equipment, such as coal cutters, loaders, and drills in underground mines; on equipment operated in single-phase alternating current; and for battery-charging leads.

Two-conductor flat cable is normally used on track-mounted coal cutters, loaders, etc., because its shape makes it easy to coil on the take-up reels. Also, its shape makes it superior to the other kinds of two-conductor cables in ability to withstand crushing.

Two-conductor Flat SI-58268—600 Volts

Size Awg.	No. of Wires	Ship. Wt., Lb per 1000 Ft. *	Over-all Diam. in Inches	Current-rating, 40 C Ambient †
6	133	471	.57x .95	50
4	133	698	.62x1.07	70
2	133	939	.73x1.26	95

*Net weight is approximately ⅛th less.
†For other ambients and cable wound on reels, see below.

Two-Conductor—Flat with Ground Wires SI-58075—600 Volts

↑ **Conductor** Tinned copper wire. Extra-flexible rope stranding.

↑ **Rubber Insulation**

↑ **Reinforcement** Strong twine

↑ **Ground Wire** Covered with cotton braid.

↑ **Oil-resistant Jacket**

Application

For mining machines, portable drills, and other portable equipment where a grounding wire is needed.

Coal cutters, loaders, etc., were formerly track-mounted. Currently, there are more and more pneumatic tired vehicles. These new units for safety reasons require that the frame of vehicle be maintained at ground potential. In order to do this, it is necessary to have a third conductor, which does not have to be insulated. This cable is easy to coil. It is superior to the round construction in ability to withstand crushing.

Two-conductor—Flat with Ground Wires SI-58075—600 Volts

Size Awg.	No. of Wires	Ship. Wt., Lb per 1000 Ft. *	Over-all Diam. in Inches	Current-rating, 40 C Ambient †
6	133	609	.55x1.04	50
4	133	874	.60x1.17	70
3	133	1027	.67x1.28	80
2	133	1194	.72x1.37	95
1	133	1578	.80x1.56	110

*Net weight is approximately ⅛th less.
†For other ambients and cable wound on reels, see below.

Manufacturing tolerances: Two-conductor Flat-twin. Major diameter ± .04 in.; minor diameter ± .03 in.

†CORRECTION FACTORS

SI-58267, SI-58268, SI-58075

The current-carrying capacities in these tables are based on a maximum copper temperature of 60 C and an ambient air temperature of 40 C. If cables are operated in other ambient air temperatures, the current-carrying capacities should be corrected as follows:

Ambient air temperature, degrees	10 C	20 C	30 C	40 C	50 C
Correction factor	1.58	1.41	1.22	1.00	0.71

These carrying capacities are also based on the assumption that the cables are NOT on reels. If a portion of the cable is on a reel (as, for example, the cable reel of a mining locomotive), the current-carrying capacities must be corrected as follows:

No. of layers on reel	one	two	three	four
Correction factor	0.85	0.65	0.45	0.35

G-E GEOPRENE PORTABLE CABLE
SI-58271—600 VOLTS

CONDUCTOR Tinned copper wire Extra-flexible rope stranding

INSULATION Heat-resistant Colored rubber on No. 2 and smaller Colored tape on No. 1 Awg and larger

REINFORCEMENT Strong twine Waxed jute fillers on sizes No. 14, 12 and 10 Awg

OIL-RESISTANT JACKET

Two-conductor round cable is the most widely used type for portable-cable applications, such as lifting magnets, battery-charging leads, motor cables, and the like. It is flexible in all directions, is easily coiled and stored in a small space, and, is highly resistant to damage from impact and flexing.

Three-conductor cable is used in three-phase circuits and is being increasingly used on single-phase a-c and d-c circuits where a grounding conductor is required.

Size, Awg. or MCM	No. of Wires	Two-conductor, SI-58271 Round Type W Ship. Wt. in Lb. per 1000 Ft. *	Over-all Diam. in Inches	Current Rating in Amperes †	Three-conductor, SI-58271 Type W without shields or ground wires Ship. Wt. in Lb. per 1000 Ft. *	Over-all Diam. in Inches	Current Rating in Amperes	Four-conductor, SI-58271 Type W (All conductors insulated) Ship. Wt. in Lb. per 1000 Ft. *	Over-all Diam. in Inches	Current Rating in Amperes
14	41	178	.54	19	211	.56	23	--------	------	----
12	49	220	.59	26	265	.62	29	--------	------	----
10	49	271	.65	38	336	.68	38	--------	------	----
8△	49	478	.81	51	626	.90	50	--------	------	----
6	49	665	.93	64	--------	------	------	--------	------	----
6	133	--------	------	------	857	1.00	65	--------	------	----
4	49	928	1.07	90	--------	------	------	--------	------	----
4	133	--------	------	------	1208	1.16	86	1216	1.26	67
2	133	1343	1.26	122	1682	1.33	113	1790	1.47	88
1	133	1720	1.44	142	2082	1.51	129	--------	------	----
0	133	1950	1.52	168	2521	1.65	147	--------	------	----
00	133	2540	1.65	193	3007	1.77	171	--------	------	----
000	259	2690	1.77	226	3496	1.92	194	--------	------	----
0000	259	--------	------	------	4206	2.07	221	--------	------	----

Manufacturing tolerances: Two-conductor Round. Sizes No. 18 to 10 Awg ± .02 in.; sizes No. 8 to 2 Awg ± .03 in.

△Has P-108 BM approval. Above cables may be operated at 75 C.

THREE-CONDUCTOR—TYPE G WITH GROUND WIRES—SI-58272—600 VOLTS

The ground wire is separated into three parts to fit into the interstices with treated jute fillers for flexibility

CONDUCTOR Tinned copper wire. Extra-flexible rope stranding.

INSULATION Heat-resistant With colored rubber or tapes for identification.

REINFORCEMENT Inner Jacket With strong twine reinforcing.

OIL-RESISTANT Jacket

Used particularly on three-phase a-c circuits for portable equipment where grounding wires are desired.

Type G cable has a ground wire in each of the three interstices between the power conductors. The total circular-mil area of the three ground wires is equal to that of one of the power conductors.

‡Manufacturing tolerances: Sizes No. 8 to 1 Awg plus-minus .03 in.; sizes No. 0 and 00 Awg plus-minus .04 in.; sizes No. 000 and 0000 Awg plus-minus .05 in.

†For other ambients and cable wound on reels see "Correction Factors for SI-58271, SI-58272, SI-58239" on the following page.

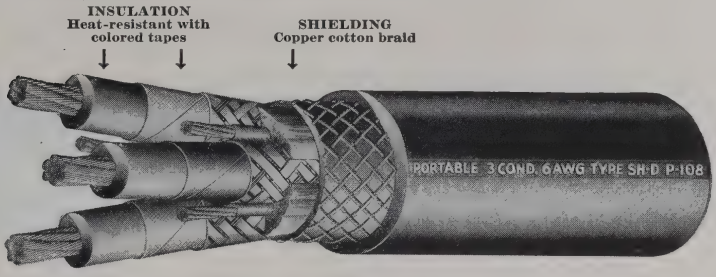
*Net weight is approximately 1/6 less.

Size Awg or MCM	No. of Wires	Type G with ground wires—SI-58272 Current Ratings in Amperes †	Ship. Wt. in Lb. per 1000 Ft. *	Over-all Diam. in Inches ‡
8	49	50	687	.92
6	49	65	937	1.00
4	49	86	1337	1.17
2	133	113	1928	1.34
1	133	129	2398	1.51
0	133	147	2930	1.66
00	133	171	3540	1.76
000	259	194	4370	1.90
0000	259	221	5030	2.05

G-E GEOPRENE PORTABLE DREDGE AND SHOVEL CABLE

SI-58239—5000 VOLTS—TYPE SH-D

Type SH-D is first choice for electric shovels, dredges, etc., operating at voltages above 600 volts. Recommended where maximum protection to cable and personnel is desired.



Three-Conductor—Type SH-D—With Ground Wires and Shields on Conductors

Size, Awg.	No. of Wires	Current Ratings in Amperes †	5000-volt Rating Type SH-D Ship. Wt. in Lb. per 1000 Ft. *	5000-volt Rating Type SH-D Over-all Diam. in Inches ‡	Size, Awg.	No. of Wires	Current Ratings in Amperes †	5000-volt Rating Type SH-D Ship. Wt. in Lb. per 1000 Ft. *	5000-volt Rating Type SH-D Over-all Diam. in Inches ‡
6	49	69	2346	1.84	0	133	154	4794	2.41
4	133	91	2786	2.04	00	133	180	5467	2.52
2	133	119	3599	2.19	0000	259	234	7267	2.81

†Correction Factors for SI-58271, SI-58272, SI-58239

The current-carrying capacities in these tables are based on a maximum copper temperature of 75C and an ambient air temperature of 40C. If cables are operated in other ambient air temperatures, the current-carrying capacities should be corrected as follows:

Ambient air temperature degrees	10C	20C	30C	40C	50C
Correction factor	1.36	1.25	1.13	1.00	0.85

‡Diameters are nominal. Manufacturing tolerances: Sizes No. 8 to 2 Awg .04 in.; Sizes No. 2 and 1 Awg .05 in.; Sizes No. 0 to 0000 Awg .06 in.

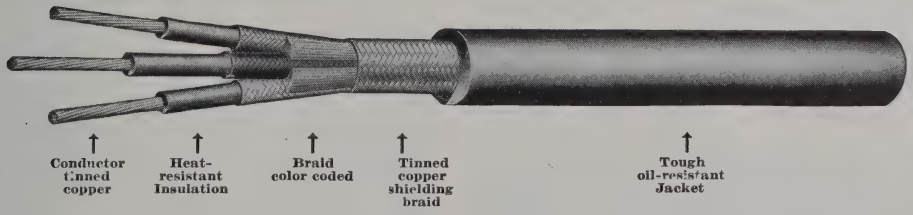
*Net weight is approximately 1/6th less.

These carrying capacities are also based in the assumption that the cables are NOT on reels. If a portion of the cable is on a reel, the current-carrying capacities must be corrected as follows:

No. of layers on reel	one	two	three	four
Correction factor	0.85	0.65	0.45	0.35

G-E RUBBER-INSULATED, PORTABLE CABLE

GEOPRENE PORTABLE SHIELDED CONTROL CABLE—SI-58196—600 VOLTS



Shielded control cable is desirable on any circuits where inducted current from other circuits may be objectionable. This is necessary where very small amounts of current are required to control electronic devices.

The tough jacket insures satisfactory mechanical strength when the cable is subjected to rough handling such as during installation in ducts, while making connections in the customer's plant, and during operation where the cable is subjected to undue stresses.

Size No. 18 Awg, 16 Strands

No. of Conds	Ship. Wt in Lb per 1000 Ft	Net Wt in Lb per 1000 Ft	Wall Thickness in 64ths	Jacket Thickness in 64ths	Over-all Diam in Inches
2	115	96	2	4	.42
3	142	118	2	4	.46
5	180	150	2	4	.52

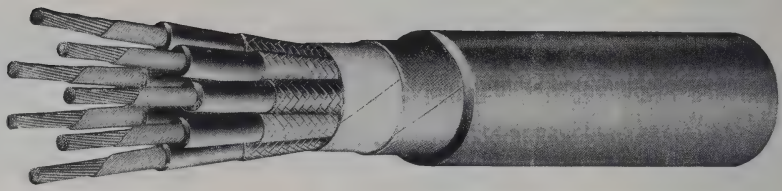
G-E RUBBER INSULATED, PORTABLE CABLE

GEOPRENE TRAIN JUMPER CABLE

SI-58285—600 VOLTS

Application

To carry control circuits from car to car on multiple-unit train. For further details, see below.



CONDUCTOR Tinned copper and steel wires approximate size No. 12 Awg.

SEPARATOR Closed cotton wrap.

Heat-resistant 3/64-inch Insulation

BRAID A single braid of colored cotton, treated with a transparent paraffin compound.

TAPE A dry manilla-paper tape.

TAPE Muslin cloth, frictionized on one side with an insulating compound.

Oil-resistant Jacket

APPLICATION

A jumper cable is multiconductor control cable that carries the control circuits from one car to another of a multiple-unit train. It can also be used, of course, for other applications that require a flexible, strong, portable control cable.

When used as a jumper, this cable is subjected to unusually severe abuse. Hanging down between cars, it is splashed by water, slush, and mud. It swings constantly and rubs against adjacent objects. Cable for this service must be designed to stand up, G-E jumper cable has been proven exceptional in this respect.

ADVANTAGES

Conductor

The conductor is designed for strength and flexibility. Each conductor is composed of seven strands of No. 28 Awg tinned-steel wire, which has a tensile strength of 190,000 pounds per square inch, and 30 strands of No. 28 Awg annealed tinned-copper wire (approximately size No. 12 Awg). Each conductor is covered with an open-spiral cotton separator, which makes it easy to strip off the insulation.

Color Code

Where two colors are specified, the first color is the tracer.

In twenty-conductor cable, the first layer, consisting of seven conductors, has one conductor braided with red cotton; the second layer, consisting of thirteen conductors, has one conductor braided with black cotton. All other conductors are braided with white cotton.

No. of Conductors	Ship Wt in Lb per 1000 Feet †	Approx Over-all Diameter In Inches	Pack
6	466	.88	1000′ reels
7	556	.97	
9	662	1.03	
10	694	1.06	
12	968	1.28	
16	1139	1.35	
20	1415	1.50	

†Net weight approx. ⅛ less.

Color Code

Color of Braids	Number of Conductors								
	4	5	6	7	9	10	12	16	19
White				x	x	x	x	x	x
Red and black							x	x	x
Blue and black							x	x	x
Yellow and white								x	x
Blue and green								x	x
Red	x	x	x	x	x	x	x	x	x
Blue	x	x	x	x	x	x	x	x	x
Black	x	x	x	x	x	x	x	x	x
Green	x	x	x	x	x	x	x	x	x
Red and white		x	x	x	x	x	x	x	x
Green and white			x	x	x	x	x	x	x
Green and red					x	x	x	x	x
Black and white					x	x	x	x	x
Blue and red						x	x	x	x
Blue and white								x	x
Black and green								x	x
Yellow									x
Black and yellow									x
Red and yellow									x

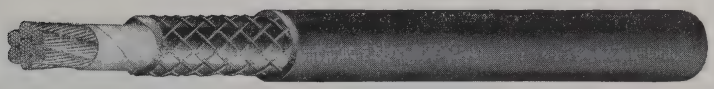
G-E RUBBER-INSULATED, PORTABLE CABLE

GEOPRENE TROLLEY COACH AND MOTOR LEADS

SI-58220—600 VOLTS

Application

For use on trolley coaches traction motors of electrically driven trolleys, locomotives, etc. Also see below.



CONDUCTOR Tinned copper wire. Extra-flexible stranding.

SEPARATOR wire. rope used only on size No. 8 Awg and larger

Heat-resistant Insulation

BRAID Strong reinforcing cable-laid twine (on sizes No. 6 Awg and larger.)

Oil-resistant Jacket

Listed by Underwriters' Laboratories, Inc.

Size Awg	Stranding	Ship Wt in Lb per 1000 Ft †	Over-all Diameter Inches	Size Awg	Stranding	Ship Wt in Lb per 1000 Ft †	Over-all Diameter Inches
14	41/30	80	.24	2	259/26	465	.69
12	65/30	95	.26	1	259/25	545	.75
10	65/28	105	.28	0	275/24	625	.80
8	133/29	175	.47	00	325/24	730	.85
6	133/27	245	.51	00	375/24	820	.87
5	133/26	275	.55	000	450/24	970	.93
4	133/25	340	.57	0000	550/24	1140	.97
3	259/27	405	.64	300	775/24	1680	1.13

†Net weight is appox. ⅛ less.

APPLICATION

This type of cable is designed for wiring trolley coaches, traction motors of electrically driven vehicles, and on modern trolley cars. For certain other applications, too, it may be better suited than the extra-flexible car-wiring cable.

In trolley coaches these cables are usually installed in non-metallic tubing. The sizes most commonly used are: for trolley leads, No. 3 Awg; for motor and resistor leads, No. 5 Awg; and for control and lighting circuits, No. 14 Awg. Size No. 14 has an unusually small over-all diameter—less that ¼ inch—which allows more wire to be put in a given space.

ADVANTAGES

Conductor

The stranding minimizes the crystallization of the copper which is likely to occur under the vibration encountered on rolling stock and thus prolongs the life of the cable. It also makes the cable easier to handle and to bend around sharp corners.

Insulation

The insulation is similar to that on G-E Versatol cables. Its excellent heat- and moisture-resistant properties, coupled with extra long life, makes it an outstanding insulation for this type of cable.

On sizes No. 6 Awg. and larger, an open-mesh braid is applied over the insulation. This braid binds the insulation to the outer jacket.

Finish

For trolley-coach wiring, surface resistance must be maintained at fairly high values, even when the cable is subjected to extremely moist conditions, in order to prevent voltage creepage. This Geoprene cable, with its smooth, dense, oil-resistant jacket, therefore, provides wiring with a wide margin of safety.

The toughness of this jacket—its ability to stand rough usage—has been proved. It is water-resistant and is resistant to the effects of acids and alkalies.

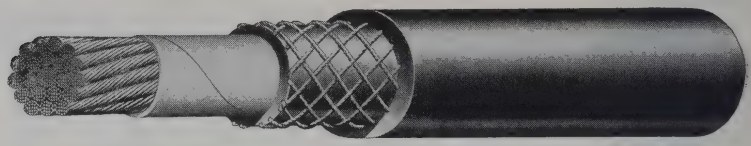
G-E RUBBER-INSULATED, PORTABLE CABLE

GEOPRENE MOTOR LEADS OR GROUNDING CABLE

SI-58260—5000 VOLTS—SINGLE-CONDUCTOR—NON-SHIELDED

Application

For use on 5000-volt locomotive traction motors, as grounding cable, or any application requiring single-conductor non-shielded portable cable. Also see below.



CONDUCTOR Soft drawn coated-copper wire. Extra-flexible rope stranding.

SEPARATOR On sizes No. 6 Awg and larger.

Heat-resistant Insulation

BRAID Open-mesh braid, serves as binder between insulation and jacket.

Oil-resistant Jacket

Conductor	Equivalent Size Awg or MCM	Ship. Wt in Lb per 1000 Feet §	Maximum Over-all Diameter Inches	Packing
37/24	8	260	.61	1000′ Reels
105/26	6	368	.71	
126/26	5	400	.73	
189/26	3	517	.80	
150/24	2	575	.84	
175/24	2	626	.86	
225/24	1	730	.91	
275/24	0	854	.98	
325/24	00	952	1.03	
375/24	00	1062	1.06	
450/24	000	1217	1.11	
550/24	0000	1406	1.15	
650/24	250	1645	1.25	
775/24	300	1930	1.35	
925/24	350	2200	1.40	
1325/24	550	2947	1.58	

§Net weight is approximately ⅛ less.

APPLICATION

This type of cable is designed primarily for the traction motors of electrically driven vehicles. The over-all diameters are such that the cables fit the standard bushings of railway motors.

The cable is also used to connect transmission lines, bus systems, etc., to ground while repairs are being made. Electrically, the cable insulation may be required to withstand full line voltage in the event that the line, so grounded, were accidentally energized. The possibility of full line voltage is remote.

ADVANTAGES

Conductor

The conductor is made with extra-flexible stranding to withstand the repeated bending and flexing the cable receives in service, thus minimizing crystallization of the copper and prolonging the life of the cable. In the small-sized cables, No. 26 Awg wires are used; in the larger-sized, No. 24 Awg.

Insulation

The insulation is similar to that on G-E Versatol cables. Its excellent heat- and moisture-resistant properties, coupled with extra long life, makes it an outstanding insulation for this type of cable.

Jacket

This Geoprene cable has an exceptionally tough jacket that is resistant to sunlight, oil, acid, flame and alkalies.

G-E SMALL MOTOR LEADS

Type D—Geoprene Cable (no braid) SI-58299

Conductor Tinned Soft Drawn Stranded Copper | Paper Separator | Tough, Oil-resistant Insulation

Type D—This wire is listed by Underwriters' Laboratories for operation within appliances at 90 C dry and for 60 C operation in oil.

Sizes No. 20 through No. 16 Awg are rated at 300 volts, and sizes No. 14 through No. 10 Awg at 600 volts.

It is especially suitable for use as leads for coils, transformers, motors, or ballasts where the baking cycle is severe. It is recommended wherever an appliance wire is required to withstand elevated temperatures, either in the manufacturing cycle or in actual operation.

Type E—Geoprene Cable (braided) SI-58296

Conductor Tinned Soft Drawn Stranded Copper | Separator‡ | Tough, Oil-resistant Insulation | Treated Braid

Type E—This wire is listed by Underwriters' Laboratories for operation within appliances at 90 C dry and for 60 C operation in oil. In addition, Type E is listed as FF-32 fixture wire (60 C rating). Size 20 is rated at 300 volts and sizes 14 through 1 Awg for 600 volts.

It is especially suitable for use as leads for coils, transformers, motors, or ballasts where the baking cycle is severe. It is recommended wherever an appliance wire is required to withstand elevated temperatures, either in the manufacturing cycle or in actual operation.

Size Awg.	No. of Wires	TYPE D (90C) SI-58299 Ship. Wt. in Lb. per 1000 Ft.	TYPE D (90C) SI-58299 Thickness of Insulation in 64ths	TYPE D (90C) SI-58299 Over-all Diameter in Inches	TYPE E (90C) SI-58296 Ship. Wt. in Lb. per 1000 Ft.	TYPE E (90C) SI-58296 Thickness of Insulation in 64ths	TYPE E (90C) SI-58296 Over-all Diameter in Inches
20	10	10	2	.11	12	2	.14
18	16	13	2	.12	15	2	.15
16	26	18	2	.13	20	2	.16
14	41	30	3	.18	33	3	.21
12	65	40	3	.20	42	3	.23
10	105	57	3	.22	60	3	.25
8	133	----	------	------	122	4	.35
6	133	----	------	------	171	4	.39
4	133	----	------	------	249	4	.46
2	133	----	------	------	366	4	.52
1	133	----	------	------	471	5	.60

G-E RED ROUND SHOT FIRING CORD

SI-53231

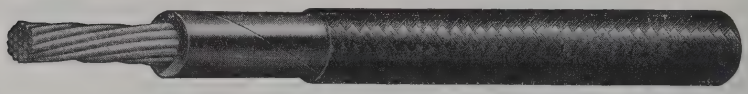
Tinned Copper Conductor | Code Rubber Insulation | Jute Filler | Cotton Wrap | Red Rubber Jacket

G-E Red Round Shot Firing Cord is a flexible, rugged cord for shot firing and blasting in wet locations. Its twisted rubber-insulated conductors are cushioned by jute fillers. This assembly is bound with a cotton wrap over which a rubber jacket is added. G-E Red Round Shot Firing Cord is resistant to acid, gases, moisture and mechanical injury.

Size	Cond.	No. of Strand	Insulation Thickness in 64ths	Approx. O.D. in Inches	Weight in Lb Per 1000 Feet	Packing
18	2	16	1	.23	37	500' Coil
18	2	16	1	.23	37	125' Coil

G-E No. 1799 VARNISHED-CAMBRIC INSULATED CABLE

SINGLE-CONDUCTOR BRAIDED
SI-12352—600, 3000, 5000, 7500, 15,000 VOLTS



Soft-drawn copper conductor

No. 1799 varnished-cambric insulation

Flame- and moisture-resistant (weather-resistant braid) (Tape and braid on 500 MCM and larger)

Application—Power and control circuits installed in conduit or ducts, wet locations.
Listed by Underwriters' Laboratories, Inc.

SI-12352—600 Volts

Size Awg or MCM	No. of Strands	Shipping Wt in Lb Per 1000 Feet	Insulation Thickness in 64ths §	Over-all Diam in In.	Std Mfg Lengths in 1000 Feet
Solid					
14	1	30	3	.21	3.0
12	1	47	3	.22	2.0
10	1	65	3	.24	2.0
8	1	89	3	.28	----
Stranded					
14	7	30	3	.21	3.0
12	7	47	3	.23	3.0
10	7	65	3	.27	2.0
8	7	89	3	.30	2.5
6	7	156	4	.37	3.0
4△	7	216	4	.41	2.0
2△	7	318	4	.44	2.0
1△	19	408	5	.55	1.5
0△	19	498	5	.59	1.0
00△	19	610	5	.63	1.0
000△	19	744	5	.70	2.5
0000△	19	918	5	.76	2.0
250□	37	1090	6	.84	2.0
350□	37	1512	6	.94	1.5
500□	37	2131	6	1.11	1.5
750★	61	3186	7	1.33	2.0
1000★	61	4150	7	1.47	----

SI-12352—3000 Volts

Stranded					
8	7	121	6	.39	3.0
6	7	181	6	.43	2.5
4	7	246	6	.48	2.0
2	7	355	6	.54	2.0
1	19	425	6	.58	----
0	19	518	6	.62	1.0
00	19	634	6	.66	1.0
000	19	752	6	.73	----
0000	19	937	6	.79	2.0
250	37	1130	7	.87	----
350	37	1537	7	.97	----
500	37	2164	7	1.13	----

SI-12352—For 5000 Volt Grounded or Ungrounded Neutral Circuits

Stranded					
6	7	229	9	.52	1.5
4	7	304	9	.57	1.0
2	7	403	9	.63	1.0
1	19	478	9	.67	----
0	19	580	9	.73	2.5
00	19	690	9	.77	3.0
000	19	836	9	.82	----
0000	19	1020	9	.88	2.0
250	37	1223	10	.96	2.0
350	37	1646	10	1.07	1.5
500	37	2285	10	1.23	1.0

§ Net weight is approx. 1/6 less.
△ Satisfactory for 600-1000 volts.

SI-12352—7500 Volts—Grounded Neutral

Size Awg or MCM	No. of Strands	Shipping Wt in Lb Per 1000 Feet	Insulation Thickness in 64ths §	Over-all Diam. in Inches
Stranded				
6	7	266	11	.58
4	7	334	11	.63
2	7	444	11	.71
1	19	510	11	.75
0	19	619	11	.79
00	19	738	11	.84
000	19	905	11	.89
0000	19	1090	11	.94
250	37	1252	11	.99
350	37	1690	11	1.13
500	37	2328	11	1.26

SI-12352—7500 Volts—Ungrounded Neutral

Stranded				
6	7	276	12	.62
4	7	338	12	.66
2	7	463	12	.74
1	19	539	12	.78
0	19	637	12	.82
00	19	757	12	.87
000	19	931	12	.92
0000	19	1118	12	.98
250	37	1303	12	1.02
350	37	1735	12	1.16
500	37	2370	12	1.29

SI-12352—15,000 Volts—Grounded Neutral Unshielded

Stranded				
6	7	352	16	.76
4	7	434	16	.80
2	7	554	16	.86
1	19	666	16	.90
0	19	770	16	.95
00	19	900	16	.99
000	19	1050	16	1.04
0000	19	1278	16	1.13
250	37	1444	16	1.18
350	37	1900	16	1.28
500	37	2531	16	1.42

SI-12352—15,000 Volts—Ungrounded Neutral Unshielded

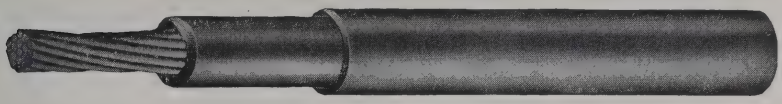
Stranded				
6	7	502	21	.91
4	7	590	21	.96
2	7	720	21	1.02
1	19	811	21	1.06
0	19	954	21	1.13
00	19	1093	21	1.18
000	19	1277	21	1.23
0000	19	1483	21	1.29
250	37	1668	21	1.33
350	37	2108	21	1.44
500	37	2762	21	1.57

□ Satisfactory for 600-2000 volts.
★ Satisfactory for 600-3000 volts.

G-E No. 1799 VARNISHED-CAMBRIC INSULATED CABLE

SINGLE-CONDUCTOR LEADED—SI-12348—600, 3000, 5000 VOLTS

THREE-CONDUCTOR BRAIDED—SI-12354—600, 3000, 5000 VOLTS



↑ Soft-drawn copper conductor

↑ No. 1799 varnished-cambric insulation

↑ Lead sheath

Application—Power and control circuits installed in conduit or ducts, wet locations.
Listed by Underwriters' Laboratories, Inc.

SINGLE CONDUCTOR LEADED

SI-12348—600 Volts

Size Awg or MCM	No. of Strands	Ship Wt in Lb Per 1000 Feet §	Thickness in 64ths Insulation	Thickness in 64ths Lead	Over-all Diam in In.	Std Mfg Length in M Ft.
Solid						
8	1	323	3	3	.32	....
Stranded						
6△	7	453	4	3	.40	....
4△	7	562	4	3	.45	2.0
2△	7	864	4	3	.51	2.0
1△	19	1051	5	4	.62	....
0△	19	1168	5	4	.66	2.0
00△	19	1339	5	4	.70	2.0
000△	19	1548	5	4	.75	....
0000△	19	2028	5	4	.81	2.0
250□	37	2311	6	5	.92	2.0
350□	37	2863	6	5	1.03	3.0
500□	37	3648	6	5	1.16	2.0
750★	61	5280	7	6	1.41	2.0
1000★	61	6622	7	6	1.41	....

SI-12348—3000 Volts

Stranded						
6	7	534	6	3	.47	....
4	7	724	6	3	.52	....
2	7	977	6	4	.61	....
1	19	1097	6	4	.65	....
0	19	1235	6	4	.69	....
00	19	1402	6	4	.73	....
000	19	1606	6	4	.79	....
0000	19	2100	6	5	.84	....
250	37	2382	7	5	.95	....
350	37	2940	7	5	1.06	....
500	37	3896	7	5	1.19	....

SI-12348—5000 Volt Grounded or Ungrounded Neutral Circuits

Stranded						
6	7	832	9	4	.59	....
4	7	946	9	4	.64	....
2	7	1141	9	4	.70	....
1	19	1265	9	4	.74	....
0	19	1486	9	4	.78	....
00	19	1670	9	5	.86	....
000	19	2041	9	5	.91	....
0000	19	2304	9	5	.97	....
250	37	2604	10	5	1.05	....
350	37	3170	10	5	1.15	....
500	37	4354	10	6	1.32	....

§ Net weight is approx. ⅛ less.
△ Satisfactory for 600-1000 volts.

THREE-CONDUCTOR BRAIDED

SI-12354—600 Volts

Size Awg or MCM	No. of Strands	Ship Wt in Lb Per 1000 Feet §	Insulation Thickness in 64ths	Over-all Diam in Inches
8	7	323	3	.59
6△	7	494	4	.75
4△	7	717	4	.86
2△	7	1079	4	.98
1△	19	1406	5	1.15
0△	19	1729	5	1.24
00△	19	2107	5	1.34
000△	19	2575	5	1.45
0000△	19	3156	5	1.58
250□	37	3779	6	1.75
350□	37	5110	6	1.98
500□	37	7099	6	2.28

SI-12354—3000 Volts

6	7	583	5x2	.86
4	7	847	5x2	.97
2	7	1232	5x2	1.13
1	19	1586	6x2	1.28
0	19	1894	6x2	1.37
00	19	2290	6x2	1.47
000	19	2773	6x2	1.59
0000	19	3384	6x2	1.71
250	37	3898	6x2	1.82
350	37	5242	6x2	2.05
500	37	7278	6x2	2.34

SI-12354—For 5000 Volt Grounded or Ungrounded Neutral Circuits

6	7	724	6x4	1.00
4	7	991	6x4	1.13
2	7	1406	6x4	1.26
1	19	1662	6x4	1.35
0	19	1978	6x4	1.43
00	19	2380	6x4	1.53
000	19	2872	6x4	1.65
0000	19	3480	6x4	1.78
250	37	4116	7x4	1.94
350	37	5533	7x4	2.19
500	37	7536	7x4	2.47

□ Satisfactory for 600-2000 volts.
★ Satisfactory for 600-3000 volts.

G-E No. 1799 VARNISHED-CAMBRIC LEADED CABLE

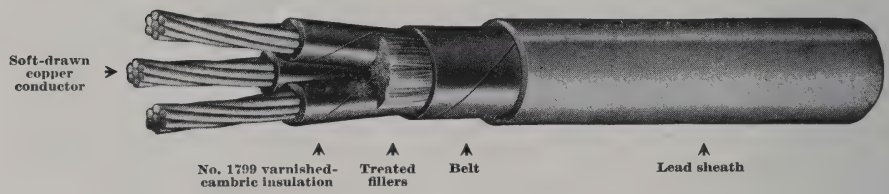
Application

Power circuits installed in conduit or ducts, wet locations.

High-voltage, high - operating - temperature No. 1799 varnished-cambric cable combines high dielectric strength with heat resistance. No. 1799 can be operated at 85 C up to 5000 volts. This rating is reduced slightly for higher voltages.

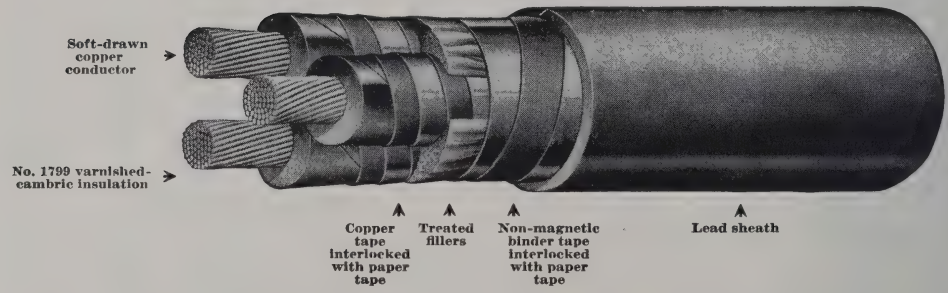
SI-12350

Three-conductor, 600, 3000, 5000, 7500-volt belted-type leaded cable



SI-12381

Three-conductor 15,000-volt shielded-type leaded cable


Soft-drawn copper conductor
No. 1799 varnished-cambric insulation
Copper tape interlocked with paper tape
Treated fillers
Non-magnetic binder tape interlocked with paper tape
Lead sheath

THREE-CONDUCTOR LEADED 3000 VOLTS, SI-12350 △							THREE-CONDUCTOR LEADED 5000 VOLTS, GROUNDED OR UNGROUNDED NEUTRAL, SI-12350 †							THREE-CONDUCTOR SHIELDED LEADED 15,000 VOLTS, GROUNDED NEUTRAL, SI-12381 ‡					
Size, Awg. or MCM	No. of Str.	Ship. Wt. in Lb. per M Ft. *	Thickness in 64ths In.			Overall Diam. in Inches	Size, Awg. or MCM	No. of Str.	Ship. Wt. in Lb. per M Ft. *	Thickness in 64ths In.			Overall Diam. in Inches	Size, Awg. or MCM	No. of Str.	Ship. Wt. in Lb. per M Ft. *	Thickness in 64ths In.		Overall Diam. in Inches
			Ins.	Belt	Lead					Ins.	Belt	Lead					Ins.	Lead	
8	7	1509	5	2	5	.87	6	7	2161	6	4	5	1.08	6	7	4525	16	7	1.75
6	7	1850	5	2	5	.95	4	7	2552	6	4	5	1.19	4	7	5040	16	7	1.86
4	7	2238	5	2	5	1.06	2	7	3504	6	4	6	1.35	2	7	5736	16	7	1.98
2	7	2776	5	2	5	1.18	1	19	3922	6	4	6	1.43	1	19	6210	16	7	2.07
1	19	3734	6	2	6	1.37													
							0	19	4392	6	4	6	1.52	0	19	6744	16	7	2.16
0	19	4193	6	2	6	1.46	00	19	4950	6	4	6	1.62	00	19	8032	16	8	2.29
00	19	4756	6	2	6	1.56	000	19	6150	6	4	7	1.76	000	19	8910	16	8	2.40
000	19	5422	6	2	6	1.67	0000	19	7008	6	4	7	1.89	0000	19	9864	16	8	2.52
0000	19	6776	6	2	7	1.82													
							250	37	7984	7	4	7	2.05	250	37	10666	16	8	2.62
250	37	7498	6	2	7	1.93	350	37	10572	7	4	8	2.31	350	37	13150	16	8	2.85
350	37	9306	6	2	7	2.16	500	37	13244	7	4	8	2.60	500	37	15468	16	8	3.14
500	37	12648	6	2	8	2.47													

*Net weight is approximately 1/6 less.
△Also available for 600 volts.
†Also available for 7500 volts.
‡Also available with ungrounded neutral.

G-E No. 1799 VARNISHED-CAMBRIC INSULATED CABLE

TRANSFORMER LEADS

External leads with flame- and moisture-resistant braid.....SI-12247
Internal leads with Glyptal treated braid.....SI-12247C

Stranded copper conductor | No. 1799 varnished-cambric insulation | Flame-, moisture- and weather-resistant braid, SI-12247

Application

External Leads

For external leads—those exposed to weather—transformer leads with a flame- and moisture-resistant braid (SI-12247) are recommended. These leads should not be used for internal leads as the compound with which the braid is treated may be dissolved by the transformer oil.

Internal Leads

For leads exposed to or submerged in oil, leads with a Glyptal treated braid (SI-12247C) are recommended. The braid treatment is unaffected by oil.

Description

The copper conductors of transformer leads are of standard stranding in sizes No. 0000 Awg and smaller. Larger conductors are of extra-flexible strand for ease of installation.

The insulation on all transformer leads is No. 1799 black Varnished-cambric. This cloth is not affected by transformer oil with which it may come in contact under normal conditions.

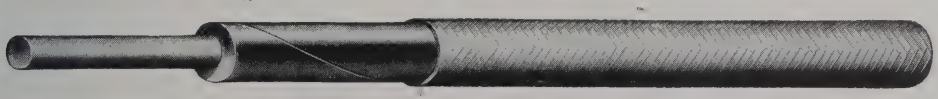
All transformer leads are covered with a single-cotton braid. Three different treatments are given the braid depending on the use for which it is intended, as described above.

Size Awg or MCM	No. of Strands	Insulation Thickness in 64ths	§Ship. Wt in Lb. per 1000 Ft	Max Overall Diam in In.	Size Awg or MCM	No. of Strands	Insulation Thickness in 64ths	§Ship. Wt in Lb. per 1000 Ft	Max Overall Diam in In.	Size Awg or MCM	No. of Strands	Insulation Thickness in 64ths	§Ship. Wt in Lb. per 1000 Ft	Max Overall Diam in In.
12	7	4	54	.26	6	7	4	156	.30	2	7	4	318	.57
		8	89	.39			8	215	.49			8	385	.60
		14	164	.58			14	324	.68	0	19	5	498	.58
10	7	4	74	.28	5	7	4	186	.48	00	19	5	610	.63
		8	114	.42	4	7	4	216	.41	000	19	5	744	.70
		14	203	.61			8	286	.63	0000	19	5	918	.75
8	7	4	100	.32			....	.....	....	.....	....	..	.....	....
		8	148	.45			....	.....	....	.....	....	..	.....	....
		14	250	.64			....	.....	....	.....	....	..	.....	....

§Net wt is approx ⅛ less.
Use SI-12240 C if extra-flexible leads are required for internal transformer leads.
Use SI-12240 B if extra-flexible leads are required for external transformer leads.

SWITCHBOARD CABLE—SI-12274—600 VOLTS

Application—For switchboard and station wiring, and for similar applications that require an inexpensive flame-resistant wire.



Soft-drawn copper conductor | No. 1799 varnished-cambric insulation | Cotton braid, gray flame-resistant finish

Size Awg or MCM	No. of Strands	Ship. Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Diameter in Inches: Bare Conductor	Diameter in Inches: Overall	Size Awg or MCM	No. of Strands	Ship. Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Diameter in Inches: Bare Conductor	Diameter in Inches: Overall
Solid						Strand					
14	1	30	3	.064	.203	14	7	30	3	.074	.213
12	1	47	3	.081	.220	12	7	47	3	.092	.231
10	1	65	3	.102	.241	10	7	65	3	.116	.255
8	1	89	3	.128	.267	8	7	89	3	.147	.286
6	1	144	4	.162	.327	6	7	156	4	.183	.348
4	1	204	4	.204	.369	4	7	216	4	.232	.402
2	1	318	4	.258	.428	2	7	318	4	.292	.462
1	1	408	5	.289	.490	1	19	408	5	.332	.533
0	1	498	5	.325	.526	0	19	498	5	.373	.574
00	1	610	5	.365	.566	00	19	610	5	.419	.620
000	1	744	5	.410	.611	000	19	744	5	.470	.686
0000	1	918	5	.460	.676	0000	19	918	5	.528	.744

§Net wt is approx ⅛ less.

G-E No. 1799 VARNISHED-CAMBRIC APPARATUS LEADS

With Glyptal Treated Braid.....SI-12240C
Flame- and Moisture-resistant (Weather-resistant) Braid SI-12240B

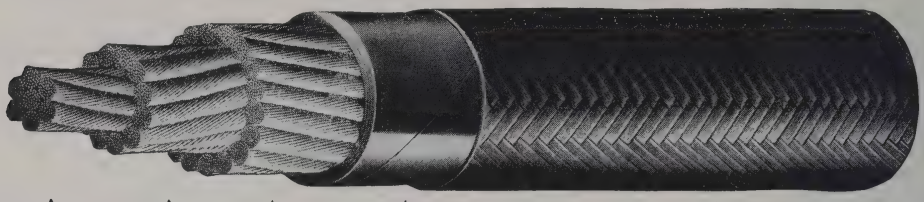
Application

For use as brush-holder leads, connections to motors, generators, circuit breakers, and for transformer leads under special conditions.

The conductors of apparatus leads are of a special extra-flexible stranding for ease in handling and installation.

The standard insulation on all apparatus leads is No. 1799 black varnished-cambric. All apparatus leads are covered with a single cotton braid.

Three different treatments are given the cotton braid, depending on the service requirements.



First layer, fine tinned copper strands | **Second layer, fine tinned copper strands** | **Third layer, fine tinned copper strands** | **No. 1799 varnished cambric insulation** | **Glyptal treated braid (SI-12240C) over-all**

Conductor	Nearest Equivalent Size, Awg. or MCM	Insulation Thickness in 64ths Inch	Ship. Wt. in Lb. per 1000 Ft. *	Diameter in In.	
				Conductor	Over-all
19/30	17	2	17	0.050	.17
16/28	16	2	19	0.059	.18
19/28	15	2	21	0.063	.19
19/27	14	2	24	0.071	.20
19/25	12	3	47	0.090	.25
19/24	11	3	49	0.100	.26
		8	102	0.100	.43
27/24	10	3	65	0.121	.28
		8	114	0.121	.45
37/24	8	3	89	0.142	.30
		8	148	0.142	.48
61/24	6	4	156	0.181	.38
		8	215	0.181	.51
91/24	5	4	188	0.221	.42
		8	251	0.221	.55
105/24	4	4	216	0.240	.45
125/24	3	4	268	0.261	.47
		8	336	0.261	.60
150/24	2	4	318	0.335	.56
		8	385	0.335	.67
175/24	2	5	361	0.360	.60
		8	416	0.360	.70
225/24	1	5	408	0.410	.66
		8	462	0.410	.77
275/24	0	5	532	0.460	.71
		8	581	0.460	.82
325/24	00	5	616	0.498	.76
		8	668	0.498	.86
375/24	00	5	692	0.518	.78
450/24	000	5	818	0.578	.84
		8	886	0.578	.94
550/24	0000	5	976	0.613	.88
650/24	250	6	1190	0.673	.97
775/24	300	6	1402	0.738	1.04
925/24	350	6	1642	0.799	1.10
1100/24	450	6	1937	0.875	1.18
		8	2023	0.875	1.24
1325/24	550	7	2345	0.970	1.30
		8	2383	0.970	1.33
1600/24	650	7	2788	1.050	1.38
		8	2828	1.050	1.41
1925/24	800	7	3305	1.150	1.48
2300/24	900	7	3907	1.207	1.60
		8	3950	1.207	1.63

*Net weight is approximately ⅛ less.

RECOMMENDED THICKNESS OF INSULATION

Voltage	Conductor, Size	Thickness of Varnished Cambric in 64ths Inch
†Up to 750 Volts (inc.)	19/30–19/27	2
	19/25–37/24	3
	61/24–150/24	4
	175/24–550/24	5
	650/24–1100/24	6
	1325/24 and larger	7
751 to 3000 Volts	19/24 and larger	8

†Sizes smaller than 19/24 are not recommended for voltages greater than 750 volts.

G-E No. 1799 VARNISHED-CAMBRIC INSULATED CABLE

DIESEL-ELECTRIC LOCOMOTIVE CABLE—600 VOLTS

CONDUCTOR Soft-drawn copper

INSULATION No. 1799 varnished-cambric

BRAID Flame- and moisture-resistant (weather-resistant braid)

Application: Extra-flexible leads for wiring diesel-electric locomotives.

All items on this page approved by Underwriters' Laboratories, Inc. for electric cars except those marked with a (‡).

Stranding	Size Awg or MCM	CM Area	Amperes Capacity △	Bare Diam in In.	Ship Wt in Lb 1000 Feet §	INS Thickness in 64ths	Max Over-all Diam in Inches
			600 Volts SI-12250				
19/27	14‡	3838	27	.07	43	3	.23
19/25	12‡	6080	36	.09	53	3	.24
19/24	11‡	7676	42	.10	60	3	.25
27/24	10‡	10908	51	.12	71	3	.27
37/24	8‡	14948	63	.14	115	3	.30
61/24	6	24644	92	.18	186	4	.43
91/24	5	36764	119	.22	247	4	.47
105/24	4	42420	130	.24	280	4	.49
125/24	3	50505	144	.26	321	4	.51
150/24	2	60600	166	.32	383	4	.57
175/24	2	70700	185	.35	452	5	.64
225/24	1	90900	217	.41	544	5	.69
275/24	0	111100	248	.45	637	5	.75
325/24	00	131300	277	.47	740	5	.79
375/24	00	151500	301	.52	851	5	.84
450/24	000	181800	336	.57	988	5	.89
550/24	0000	222200	377	.61	1180	5	.93
650/24	250	262600	427	.67	1420	6	1.02
775/24	300	313100	475	.74	1636	6	1.09
925/24	350	373700	532	.80	1901	6	1.15
1100/24	450	444400	592	.88	2232	6	1.23
1325/24	500	535300	667	.97	2669	7	1.35
1600/24	650	646400	745	1.05	3167	7	1.43
1925/24	800	777700	835	1.15	3718	7	1.53
2300/24	900	929200	935	1.27	4389	7	1.66
2750/24	1000	1111000	1050	1.38	5192	7	1.78
3300/24	1250	1333200	1190	1.51	6136	8	1.95
			ELECTRIC CAR CABLE				
			600 Volts SI-12339				
19/27	14	3838	27	.07	45	3	.26
19/25	12	6080	36	.09	70	3	.29
19/24	11	7676	42	.10	74	3	.30
27/24	10	10908	51	.12	89	3	.32
37/24	8	14948	63	.14	109	3	.34

For larger sizes use SI-12250 shown above, which has similar construction

‡ Has single braid only—not approved by Underwriters' Laboratories, Inc.

△ Ratings based on 40 C ambient in free air.

§ Net weight is approx. ⅛ less.

G-E VARNISHED-CAMBRIC INSULATED CABLE

MINE LOCOMOTIVE CABLE

SI-12246A—600 VOLTS

Soft-drawn, dry-bright-annealed, stranded copper conductor.

No. 1780 Glyptal cloth. Oil- and heat-resistant.

Single, asbestos braid, with flame- and moisture-resistant finish.

Application—For rewiring mining and industrial locomotives and other similar applications where flexible stranding and a flame-resistant asbestos braid are required. Also recommended for motor and resistor leads for locomotives.

For certain definite applications Glyptal cloth insulated cable can well be recommended instead of varnished-cambric cable. In general Glyptal cloth insulated cable should be recommended for low voltage (600 volts maximum) braided cable wherever a tough oil-, acid- or heat-resistant, long-life cable is required.

Cable insulated with Glyptal cloth can be operated at a maximum copper temperature of 85 C.

This cable may be subjected to high temperatures during its operation, to help protect it. There is a flame-resistant asbestos braid over the insulation.

The ends of Glyptal cloth leads where soldered into lugs should be sealed by taping and painting with No. 1201 Glyptal between layers of tapes and over the seal.

Description

Glyptal treated cloth belongs in the same class as varnished-cambric insulation. But it has this difference: the cloth or "cambric" tape instead of being coated with asphaltic base varnish is treated with a special Glyptal compound.

Size Awg or MCM	No. of Wires	Ship Wt in Lb per 1000 Feet §	Insul Thick in 64ths	Over-all Diam in Inches
12	19	47	3	.27
10	27	65	3	.31
8	37	89	3	.33
6	49	156	4	.42
4	49	216	4	.47
3	49	282	4	.52
2	133	318	4	.54
1	133	408	5	.63
0	133	498	5	.67
00	133	612	5	.71
000	259	744	5	.77
0000	259	918	5	.84
250	650	1190	6	.93
300	775	1401	6	1.01
350	925	1641	6	1.06
450	1100	1937	6	1.14
500	1325	2345	6	1.24

§Net weight is approximately ⅛ less.

Recommended Sizes for Industrial Locomotives

Locomotive Weight in Tons	Conductor Size, Awg or 1000 Circular Mils — 250 Volts: Motor Lead	250 Volts: Rheostat Lead	500 Volts: Motor Lead	500 Volts: Rheostat Lead
4	6	6	6	6
6	4	4	6	6
8	2	2	6	6
10	0	2	4	4
13	0	2	4	4
15	00	1	2	2
20	000	0	0	2

G-E INTERLOCKED-ARMOR CABLE

GALVANIZED STEEL

THREE-CONDUCTOR—NO. 1799 VARNISHED-CAMBRIC INSULATION

Listed by Underwriters' Laboratories, Inc., as Type ACV

Application

For power circuits in central stations and substations, industrial plants, railroad roundhouses, and in similar locations.

Advantages

Interlocked-armor cable offers the advantage of metal-enclosed circuits which can stand high ambient temperatures and overloads. The positively interlocked galvanized-steel armor allows the cable to be bent around obstructions and protects the insulation against mechanical injury.

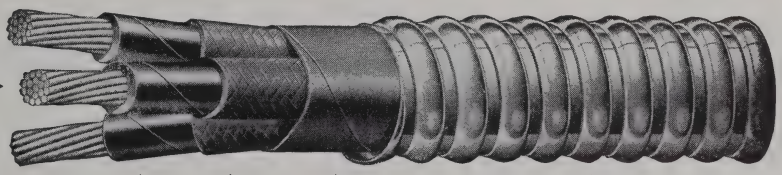
This cable can be quickly and easily installed, using the conventional cleats, connectors, and boxes available for flexible steel conduit in sizes up to 3-inch. By providing a junction box at every bay location in the factory, production machinery can be rearranged without the need for costly tearing and replacing necessary with the conventional method of wiring. Savings of as much as 41% have been effected by using this flexible method of wiring for power.

Connectors

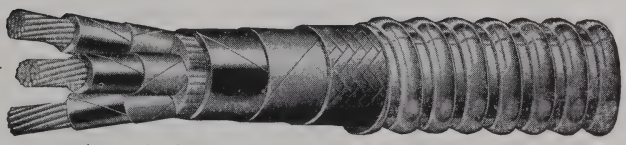
Connectors for 600-volt. SI-12345 cable are available for all sizes. An insulating sleeve should be inserted under the armor before the connectors are tightened. Insulating sleeves are furnished with each length of 600-volt interlocked armor cable in a quantity determined as follows: 2 for each hundred feet, or fraction of a hundred feet, of cable, plus five for every lot.

Termination of the 5000-volt cable per SI-12347 by means of compound-filled potheads is advisable. However, under certain conditions, taped terminations may be used.

600 Volts, SI-12345



5000 Volts, SI-12347



Size, Awg or MCM	600 VOLTS, SI-12345			5000 VOLTS, SI-12347				†CURRENT RATINGS, AMP.				
	Ship. Wt in Lb per 1000 Ft ‡	Insulation Thick. in 64th In. on Each	Over-all Diameter in Inches	Ship. Wt in Lb per 1000 Ft ‡	Insulation Thick. in 64th In.		Over-all Diameter in Inches	Ambient Air Temperature, Degrees Centigrade				
					On Each	Belt		30	40 △	45	50	60
6	....	...	....	1412	6	4	1.33	...	...	...	...	...
4	1233	4	1.18	1645	6	4	1.43	101	91	85	80	68
2	1609	4	1.31	2184	6	4	1.56	134	121	114	107	90
1	2018	5	1.46	2448	6	4	1.65	154	139	131	122	104
0	2441	5	1.55	2990	6	4	1.74	179	161	151	142	120
00	2767	5	1.65	3465	6	4	1.85	205	185	174	163	138
000	3517	5	1.79	4094	6	4	1.96	236	213	200	188	159
0000	4158	5	1.91	4789	6	4	2.08	271	244	230	215	182
250	4919	6	2.08	5532	7	4	2.25	300	270	254	238	201
350	6376	6	2.33	7179	7	4	2.49	371	334	314	294	249
500	8641	6	2.68	9487	7	4	2.78	462	417	392	366	311
750	12994	7	3.17	....	...	...	....	587	529	498	466	394

‡Net weight is approximately ⅛ less.
†Based on 0-5000 volts one three-conductor cable in air.
△40 C (104F) represents average conditions in industrial plants.

PUBLICATION

V-C Cable GEA-2623
Interlocked-armor Cable 19-320

G-E FLAMENOL INTERLOCKED ARMOR CABLE

THREE-CONDUCTOR—SI-13222—0-5000 VOLTS

Application—For 5000-volt power circuits in central and substations, industrial plants, railroad roundhouses, and in similar locations. The impervious jacket makes this cable suitable for outdoor aerial installations.

Size Awg or MCM	GALVANIZED STEEL ARMOR Ship Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Jacket Thickness in Inches	Diam. Over Jacket in Inches	▲Diam. Over Armor in Inches	Size Awg or MCM	BRONZE ARMOR Ship Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Jacket Thickness in Inches	Diam. Over Jacket in Inches	▲Diam. Over Armor in Inches
4	1759	6	.094	1.19	1.44	4	1759	6	.094	1.19	1.44
2	2178	6	.094	1.32	1.57	2	2178	6	.094	1.32	1.57
1	2502	6	.094	1.40	1.65	1	2502	6	.094	1.40	1.65
0	2838	6	.094	1.49	1.74	0	2838	6	.094	1.49	1.74
00	3339	6	.094	1.59	1.84	00	3339	6	.094	1.59	1.84
000	3900	6	.094	1.70	1.95	000	3900	6	.094	1.70	1.95
0000	4626	6	.094	1.83	2.08	0000	4626	6	.094	1.83	2.08
250	5255	7	.094	1.99	2.24	250	5255	7	.094	1.99	2.24
350	7008	7	.094	2.22	2.47	350	7008	7	.094	2.22	2.47
500	8977	7	.094	2.52	2.77	500	8977	7	.094	2.52	2.77
750	12133	7	.090	2.88	3.13	750	12133	7	.090	2.88	3.13

§ Net weight is approx. ⅛ less.
▲ Cables can be manufactured having a minimum core diameter up to 3.000 inches.

THREE-CONDUCTOR—SI-13222—15 KV. GND.

Application — For 15,000-volt power circuits in central and substations, industrial plants, railroad roundhouses, and in similar locations. The impervious jacket makes this cable suitable for outdoor aerial installations.

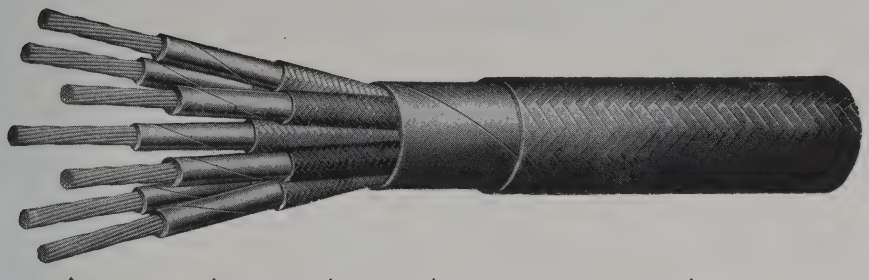
No. 1799 varnished-cambric insulation
Impervious jacket
Annealed copper conductors
Copper tape interlocked with paper tape
Treated fillers
Non-magnetic binder tape interlocked with paper tape
Single-strip positively interlocked armor

Size Awg or MCM	GALVANIZED STEEL ARMOR Ship Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Jacket Thickness in Inches	Diam. Over Jacket in Inches	▲Diam. Over Armor in Inches	Size Awg or MCM	BRONZE ARMOR Ship Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Jacket Thickness in Inches	Diam. Over Jacket in Inches	▲Diam. Over Armor in Inches
4	3242	16	.094	1.85	2.10	4	3242	16	.094	1.85	2.10
2	3774	16	.094	1.98	2.23	2	3774	16	.094	1.98	2.23
1	4188	16	.094	2.07	2.32	1	4188	16	.094	2.07	2.32
0	4626	16	.094	2.16	2.41	0	4626	16	.094	2.16	2.41
00	5142	16	.094	2.26	2.51	00	5142	16	.094	2.26	2.51
000	5772	16	.094	2.37	2.62	000	5772	16	.094	2.37	2.62
0000	6552	16	.094	2.49	2.74	0000	6552	16	.094	2.49	2.74
250	7208	16	.094	2.59	2.84	250	7208	16	.094	2.59	2.84
350	8754	16	.090‡	2.78	3.03	350	8754	16	.090‡	2.78	3.03
500	10888	16	.090‡	3.07	3.32	500	10888	16	.090‡	3.07	3.32

§ Net weight is approx. ⅛ less.
▲ Cables can be manufactured having a minimum core diameter up to 3.000 inches.
‡ Taped jacket.

G-E VARNISHED-CAMBRIC INSULATED CABLE

CONTROL CABLE—No. 1799 INSULATION (3/64" thick)


Flexible, stranded conductors
3/64 inch No. 1799 varnished-cambric insulation
Colored cotton braids for identification
Cable tape
Flame- and moisture-resistant (weather-resistant) braid

Application: For multiconductor control circuits in central station and substation wiring.

No. 19/25 (approximately No. 12 Awg) has a current-carrying capacity of 20 amperes and a resistance of 1.8 ohms per 1000 ft.

No. 19/22 (approximately No. 9 Awg) has a current-carrying capacity of 30 amperes and a resistance of 0.86 ohms per 1000 ft.

Two Types: Flame- and moisture-resistant (weather-resistant) braided cable (SI-12336) should be used in dry locations or when exposed to occasional moisture.

Lead-sheathed cable (SI-12337) should be used whenever the cable is exposed to continuous moisture or is submerged.

No. of Conductors	Ship. Wt in Lb per 1000 Feet §	Thickness of Lead in 64ths	Approx. Overall Diameter in Inches
19/25 (No. 12 Awg) Flame- and Moisture-resistant Braid—SI-12336			
1	63	--	.26
2‡	124	--	.53x.29
3	207	--	.54
4	271	--	.60
5	285	--	.65
6	347	--	.74
7	377	--	.74
8	439	--	.82
9	493	--	.89
10	543	--	.96
11	573	--	.96
12	622	--	.99
13	682	--	1.05
14	720	--	1.05
19/25 (No. 12 Awg) Lead-covered—SI-12337			
1	267	3	.31
2‡	556	4	.56x.35
3	729	4	.63
4	882	4	.68
5	1057	4	.74
6	1192	4	.81
7	1223	4	.81
8	1646	5	.92
9	1792	5	.98
10	1949	5	1.06
11	1979	5	1.06
12	2074	5	1.09
13	2216	5	1.15
14	2248	5	1.15

No. of Conductors	Ship. Wt in Lb per 1000 Feet §	Thickness of Lead in 64ths	Approx. Overall Diameter in Inches
19/22 (No. 9 Awg) Flame- and Moisture-resistant Braid—SI-12336			
1	83	--	.30
2‡	185	--	.59x.33
3	263	--	.62
4	352	--	.70
5	448	--	.78
6	523	--	.85
7	576	--	.85
8	678	--	.94
9	756	--	1.02
10	836	--	1.11
11	923	--	1.11
12	964	--	1.15
13	1060	--	1.21
14	1114	--	1.21
19/22 (No. 9 Awg) Lead-covered—SI-12337			
1	342	3	.35
2‡	844	4	.64x.48
3	929	4	.70
4	1153	4	.77
5	1591	5	.87
6	1781	5	.95
7	1834	5	.95
8	2050	5	1.03
9	2251	5	1.12
10	2455	5	1.22
11	2542	5	1.22
12	3016	6	1.27
13	3227	6	1.34
14	3280	6	1.34

‡Flat parallel per SI.

§Net weight is approx. 1/6 less.

G-E VARNISHED-CAMBRIC INSULATED CABLE
TYPE SSA AERIAL CABLE—SI-12340

↑ Soft-drawn stranded-copper conductor

↑ No. 1799 varnished cambric

↑ Tape

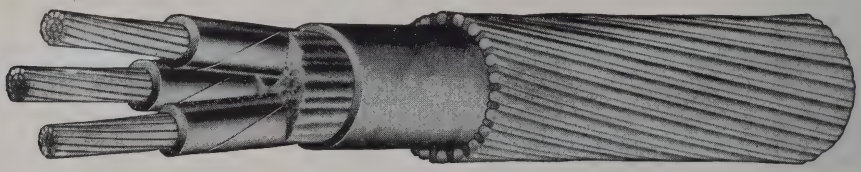
↑ Alternate strands of round galvanized-steel wire and rectangular tinned-copper wires (outer conductor)

Application: An abrasion-resistant, high tensile strength self-supporting armored aerial cable, especially applicable for installation in heavily wooded areas.

Size Awg or MCM	Ship. Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Overall Diam. in Inches	Approx. No. of Armor and Conducting Wires in Cover	Nor. Max. Span in Ft Standard Heavy Loading Conditions ‡
2300/4000 VOLTS▲					
8 sol.	661	7	.61	11	340
6 sol.	744	7	.65	12	350
4 sol.	863	7	.69	13	355
2 str.	1061	7	.75	14	360
1 str.	1177	7	.79	15	360
2400/4160 VOLTS▲					
8 sol.	716	8	.64	12	350
6 sol.	788	8	.68	12	360
4 sol.	914	8	.72	13	360
2 str.	1110	8	.78	15	365
1 str.	1228	8	.82	16	370
4000/6900 VOLTS▲					
8 sol.	780	10	.70	13	355
6 sol.	880	10	.74	14	365
4 sol.	1008	10	.79	15	365
2 str.	1211	10	.85	16	365
1 str.	1336	10	.89	17	370
4600/8000 VOLTS▲					
6 sol.	932	11	.77	14	370
4 sol.	1052	11	.82	16	370
2 str.	1262	11	.88	17	370
1 str.	1388	11	.92	18	375
6600/11500 VOLTS▲					
6 sol.	1079	14	.86	17	380
4 sol.	1211	14	.91	18	385
2 str.	1428	14	.97	19	380
7600/13200 VOLTS▲					
6 sol.	1130	15	.89	17	380
4 sol.	1265	15	.94	18	385
2 str.	1488	15	1.00	20	385

▲First voltage is to ground; second voltage is between conductors. §Net wt. is approx. ⅛ less. ‡See "normal maximum spans" paragraphs at bottom of this page.

TYPE SSA AERIAL CABLE—SI-13221—5000 VOLTS



↑ Soft-drawn stranded-copper conductors

↑ No. 1799 varnished-cambric

↑ Treated fillers

↑ Hose Jacket

↑ Alternate strands of round galvanized-steel wire and rectangular tinned-copper wires (outer conductor)

Application: An abrasion-resistant, high tensile strength self-supporting armored aerial cable, especially applicable for installation in heavily wooded areas.

△ Size Awg or MCM	Ship. Wt in Lb per 1000 Feet §	Insulation Thickness in 64ths	Overall all Diam. in Inches	Approx No. of Armor and Conducting Wires in Cover ●	Nor. Max. Span in Ft Standard Heavy Loading Conditions ‡
8	1270	6	1.08	20	375
6	1476	6	1.16	22	375
4	2620	6	1.34	18	300
2	3180	6	1.47	20	300
1	3380	6	1.47	20	300
0	3820	6	1.59	21	275
00	4324	6	1.65	22	275

△ Sizes No. 1, 0, 00 Awg compact strand, all others standard strand.

● Sizes No. 8 and 6 Awg have .095 in.—120,000 lb per sq in. tensile steel, all others have .134 in.—60,000 lb per sq in. tensile steel.

§ Net wt is approx ⅛ less.

NORMAL MAXIMUM SPANS

‡The normal maximum spans are based on the following assumptions:

1. Standard heavy-loading conditions:
   a. Minimum temperature—0 F.
   b. Ice—½ inch.
   c. Wind pressure—8 lb per sq ft.
2. Maximum armor temperature in summer at 155 F, no wind.
3. Maximum sag of 5.5 to 6.5 ft.

If standard medium-loading conditions prevail (15 F minimum temperature, ¼-in. ice, and 8 lb sq ft wind) the spans listed above may be increased by 12%.

If standard light-loading conditions prevailed (30 F minimum temperature, no ice, and 12 lb per sq ft wind), the spans listed above may be increased by 20%.

Deltabeston wires, cables, and cords

G-E DELTABESTON POWER CABLE

TYPE AVA—600/3000/5000 VOLTS

Application—Power circuits in wet or dry locations, exposed or in conduit . . . to withstand constant high temperatures. Maximum copper temperature 110° C. (230° F.). The insulation is resistant to heat, flame, moisture, oil, grease and corrosive vapors. Listed by Underwriters' Laboratories, Inc.

Single Conductor 600 Volts—SI-57049—110° C Maximum Copper Temperature

Size Awg or MCM	No. of Strands	Thickness in Mils 1st Asb	V-C	2nd Asb	Braid	Nominal O.D. in Inches †	Ship. Wt Lb per 1000 Ft	Standard Shipping Length Coils	Reels
14	7	10	30	15	45	.277	49	500	------
12	7	10	30	15	45	.296	62	500	------
10	7	10	30	15	45	.320	79	500	------
8	7	10	30	15	45	.350	103	500	------
6	7	15	30	20	45	.408	241	------	500
4	7	15	30	20	45	.456	298	------	500
2	7	15	30	20	45	.516	387	------	500
1	19	20	30	30	45	.586	471	------	500
1/0	19	20	30	30	45	.627	576	------	500
2/0	19	20	30	30	45	.673	736	------	500
3/0	19	20	30	30	45	.724	855	------	500
4/0	19	20	30	30	45	.782	1004	------	500
250	37	25	40	40	45	.879	1347	------	500
350	37	25	40	40	45	.985	1687	------	500
500	37	25	40	40	45	1.117	2190	------	500
750	61	30	40	40	45	1.312	3091	------	500
1000	61	30	40	40	45	1.466	3912	------	500

Single Conductor 3000 Volts—SI-57050—106° C Maximum Copper Temperature

8	7	15	80	25	45	.480	255	------	1000
6	7	15	80	25	45	.518	295	------	500
4	7	15	80	25	45	.566	360	------	500
2	7	15	80	25	45	.626	548	------	500
1	19	20	80	30	45	.686	624	------	500
1/0	19	20	80	30	45	.727	708	------	500
2/0	19	20	80	30	45	.773	807	------	500
3/0	19	20	80	30	45	.824	931	------	500
4/0	19	20	80	30	45	.882	1121	------	500
250	37	25	80	40	45	.959	1424	------	500
350	37	25	80	40	45	1.065	1773	------	500
500	37	25	80	40	45	1.197	2357	------	500

Single Conductor 5000 Volts—SI-57051—100° C Maximum Copper Temperature

6	7	15	120	25	45	.598	351	------	500
4	7	15	120	25	45	.646	484	------	500
2	7	15	120	25	45	.706	567	------	500
1	19	20	120	30	45	.766	662	------	500
1/0	19	20	120	30	45	.807	747	------	500
2/0	19	20	120	30	45	.853	852	------	500
3/0	19	20	120	30	45	.904	1013	------	500
4/0	19	20	120	30	45	.962	1168	------	500
250	37	25	120	40	45	1.039	1483	------	500
350	37	25	120	40	45	1.145	1830	------	500
500	37	25	120	40	45	1.277	2420	------	500

†Subject ± 5% Variation.

Above cable also available in 1000, 2000 and 4000 volt ratings.

G-E DELTABESTON POWER CABLE
BOILER ROOM WIRE—TYPE AVA—600 VOLTS
Listed by Underwriters' Laboratories, Inc.

CONDUCTOR Solid or Stranded Copper — **Varnished-cambric** — **Cellophane Separator** — **Felted Asbestos** — **Black Asbestos Braid**

Recommended for wiring where heat-resistant and moisture-resistant qualities are essential. Typical applications are for lighting and control circuits. Maximum copper temperature 110° C. (230° F.). Available in solid or stranded copper conductor.

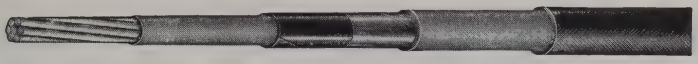
Single Conductor 600 Volts Solid—SI-57046—110 C Maximum Copper Temperature

Size Awg or MCM	No. of Strands	Thickness in Mils 1st Asb.	V-C	2nd Asb.	Braid	Nominal O.D. in Inches†	Ship. Wt. Lb. per 1000 Ft. Reels	Standard Shipping Length Coils	Reels
16*	1	----	30	20	45	.245	34	500	------
14	1	----	30	20	45	.258	41	500	------
12	1	----	30	20	45	.275	50	500	------
10	1	----	30	20	45	.296	65	500	------
8	1	----	30	20	45	.322	90	500	------
6	1	15‡	30	20	45	.386	238	------	500

Single Conductor 600 Volts Stranded—SI-57046—110 C Maximum Copper Temperature

Size Awg or MCM	No. of Strands	Thickness in Mils 1st Asb.	V-C	2nd Asb.	Braid	Nominal O.D. in Inches†	Ship. Wt. Lb. per 1000 Ft. Reels	Standard Shipping Length Coils	Reels
14	7	----	30	20	45	.265	42	500	------
12	7	----	30	20	45	.285	52	500	------
10	7	----	30	20	45	.310	67	500	------
8	7	----	30	20	45	.340	93	500	------

POWER CABLE—TYPE AVB—600 VOLTS



CONDUCTOR Stranded Copper — **Felted Asbestos** — **Varnished-cambric** — **Cellophane Separator** — **Felted Asbestos** — **Black Cotton Braid**

Application—Power circuits in dry locations exposed or in conduit—where operating conditions are not severe enough to require asbestos braid. Listed by Underwriters' Laboratories, Inc.

Single Conductor 600 Volts—SI-57095—90 C Maximum Copper Temperature

Size Awg or MCM	No. of Strands	Thickness in Mils 1st Asb	V-C	2nd Asb	Braid	Nominal O.D. in Inches†	Ship. Wt. Lb per 1000 Ft. Reels	Standard Shipping Length Coils	Reels
14	7	10	30	15	17.5	0.222	46	500	1000
12	7	10	30	15	17.5	0.241	58	500	1000
10	7	10	30	15	17.5	0.265	74	500	1000
8	7	10	30	15	17.5	0.295	101	------	1000
6	7	15	30	20	17.5	0.353	236	------	500
4	7	15	30	20	20	0.406	294	------	500
2	7	15	30	20	20	0.466	384	------	500
1	19	20	30	30	20	0.536	450	------	500
1/0	19	20	30	30	20	0.577	555	------	500
2/0	19	20	30	30	20	0.622	720	------	500
3/0	19	20	30	30	20	0.674	835	------	500
4/0	19	20	30	30	20	0.732	985	------	500
250	37	25	40	40	20	0.829	1349	------	500
350	37	25	40	40	25	0.945	1681	------	500
500	37	25	40	40	25	1.077	2184	------	500
750	61	30	40	40	25	1.272	3097	------	500
1000	61	30	40	40	25	1.426	3926	------	500

For sizes No. 6 Awg and larger use SI-57049 (YK-2250).
†Subject ±5% Variation.
‡Size 6 only has felted Asbestos wall over conductor.
*Not NEC Standard.

G-E DELTABESTON POWER CABLE

TYPE AVL—600 VOLTS

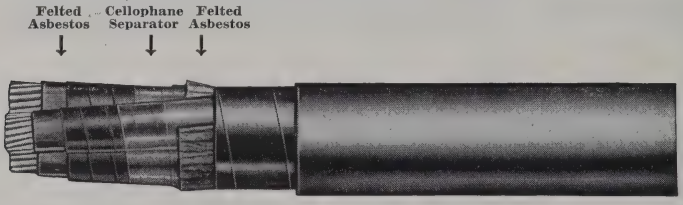
SINGLE CONDUCTOR—SI-57120—100° C

Application—Power circuits in wet or dry locations, exposed or in conduit . . . to withstand constant high temperatures. Maximum copper temperature 110° C. (230° F.). The lead sheath and asbestos insulation protect the cable against moisture, heat, oil grease and corrosive vapors. Listed by Underwriters' Laboratories, Inc.

Size Awg or MCM	No. of Strands	Thickness in Mils—Insulation 1st Asb	V-C	2nd Asb	Lead 64ths	Overall Diam. in In.†	Ship. Wt Lb per 1000 Feet
8	7	10	30	25	3	.374	386
6	7	15	30	25	3	.422	476
4	7	15	30	25	3	.500	585
2	7	15	30	25	4	.592	903
1	19	20	30	30	4	.652	1060
0	19	20	30	30	4	.693	1197
00	19	20	30	30	4	.739	1363
000	19	20	30	30	4	.790	1564
0000	19	20	30	30	5	.878	1807
250	37	25	40	40	5	.975	2398
350	37	25	40	40	5	1.081	2954
500	37	25	40	40	6	1.245	3744
750	61	30	40	40	6	1.440	5448
1000	61	30	40	40	6	1.594	6692

†Subject ± 5% Variation.

THREE CONDUCTOR 600 VOLTS—SI-57130—110° C



Application—Power circuits in wet or dry locations, exposed or in conduit. To withstand constant high temperature. Maximum copper temperature 110 C.

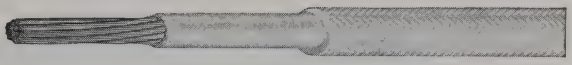
Size Awg or MCM	No. of Strands	Thickness in Mils—Insulation 1st Asb	V-C	2nd Asb	Lead 64ths	Overall Diam. in In.†	Ship. Wt Lb per 1000 Feet
8	7	10	30	25	4	.760	1324
6	7	15	30	25	5	.893	1842
4	7	15	30	25	5	.996	2100
2	7	15	30	25	5	1.126	2760
1	19	20	30	30	6	1.287	3600
0	19	20	30	30	6	1.375	4065
00	19	20	30	30	6	1.474	4664
000	19	20	30	30	6	1.584	5300
0000	19	20	30	30	7	1.740	6632
250	37	25	40	40	7	1.948	7846
500	37	25	40	40	8	2.495	12900

†Subject ± 5% Variation.

G-E DELTABESTON POWER CABLE

APPARATUS TYPE AA—300 VOLTS

Application—Wiring for motion picture equipment, and similar applications where smokeless insulation is required to withstand extreme heat, in dry locations only. Available in two degrees of flexibility. Listed by Underwriters' Laboratories, Inc.



CONDUCTOR Flexible or Extra Flexible Stranded Copper — Felted Asbestos — White Asbestos Braid

Single Conductor 300 Volts Flexible Strand—SI-57047—200 C Maximum Copper Temperature

Size Awg or MCM	Stranding	Thickness in Mils: Felted Asb Wall	Thickness in Mils: Asb Braid	Nominal O.D. in Inches†	Ship. Wt Lb per 1000 Ft Reels	Standard Shipping Length: Coil	Standard Shipping Length: Reels
14	41/0100	30	45	.225	31	500	------
12	65/0100	30	45	.245	42	500	------
10	105/0100	30	45	.270	56	500	------
8	133/0111	30	45	.318	78	500	------
6	133/0140	40	45	.382	112	------	500
4	133/0177	40	45	.436	198	------	500
2	133/0223	40	45	.506	302	------	500

Single Conductor 300 Volts Extra Flexible Stranding—SI-57048—200 C

18*	41/0063	30	45	.198	23	500	------
16*	65/0063	30	45	.211	27	500	------
14	105/0063	30	45	.227	33	500	------
12	259/0050	30	45	.255	42	500	------
10	413/0050	30	45	.282	58	500	------
8	665/0050	30	45	.318	83	500	------
6	1064/0050	40	45	.382	135	------	500
4	1672/0050	40	45	.435	185	------	500
2	2664/0050	40	45	.508	275	------	500
1/0	4214/0050	60	45	.664	445	------	500
2/0	5292/0050	60	45	.719	550	------	500
3/0	6783/0050	60	45	.787	675	------	500
4/0	8512/0050	60	45	.856	830	------	500

BOILER ROOM WIRE—TYPE AIA—600 VOLTS

Application—Power circuits for exposed wiring only (not in conduit) — withstands heat, flame, grease, etc. Listed by Underwriters' Laboratories, Inc.

CONDUCTOR Solid or Stranded Copper — Felted Asbestos — Black Asbestos Braid

Single Conductor 600 Volts Solid—SI-57045—125 C Maximum Copper Temperature

Size Awg or MCM	No. of Strands	Thickness in Mils: Asb	Thickness in Mils: Braid	Nominal O.D. in Inches	Ship. Wt Lb per 1000 Ft.	Standard Shipping Length: Coils	Standard Shipping Length: Reels
14	1	30	45	.214	39	500	------
12	1	30	45	.231	49	500	------
10	1	30	45	.252	63	500	------
8	1	30	45	.278	88	500	------
6	1	40	45	.332	121	------	500

Single Conductor 600 Volts Stranded—SI-57053—125 C Maximum Copper Temperature

14	7	30	45	0.223	41	500	------
12	7	40	45	0.262	51	500	------
10	7	40	45	0.286	66	500	------
8	7	40	45	0.316	90	500	------
6	7	60	45	0.394	232	------	500
4	7	60	45	0.442	288	------	500
2	7	60	45	0.502	374	------	500
1	19	75	45	0.572	488	------	500
1/0	19	75	45	0.613	627	------	500
2/0	19	75	45	0.659	720	------	500
3/0	19	75	45	0.710	837	------	500
4/0	19	75	45	0.768	984	------	500
250	37	90	45	0.845	1182	------	500
350	37	90	45	0.951	1647	------	500
500	37	90	45	1.083	2142	------	500

†Subject ± 5% Variation. *Not NEC Standard.

G-E DELTABESTON POWER CABLE

APPARATUS CABLE TYPE AVA—600 VOLTS

CONDUCTOR Flexible Strand Tinned Copper | Felted Asbestos | Varnished-Cambric | Cellophane Separator | Felted Asbestos | Black Asbestos Braid

Application—Power leads in high temperature applications where flexibility is required — dry locations, exposed or in conduit. Listed by Underwriters' Laboratories, Inc.

Single Conductor 600 Volts—SI-57054—110 C Maximum Copper Temperature

Size Awg or MCM	Stranding	Thickness in Mils: 1st Asb	V-C	2nd Asb	Braid	Nominal O.D. in Inches†	Ship. Wt Lb per 1000 Ft	Standard Shipping Length: Coils	Reels
18*	16/010	10	30	15	45	.253	35	500	------
16*	26/010	10	30	15	45	.267	41	500	------
14	41/010	10	30	15	45	.283	48	500	------
12	65/010	10	30	15	45	.303	62	500	------
10	105/010	10	30	15	45	.328	79	500	------
8	133/0111	10	30	15	45	.376	107	500	------
6	133/0140	15	30	20	45	.440	247	------	500
4	133/0177	15	30	20	45	.490	310	------	500
2	133/0223	15	30	20	45	.560	400	------	500
1	259/0180	20	30	30	45	.632	515	------	500
1/0	259/0202	20	30	30	45	.678	657	------	500
2/0	259/0227	20	30	30	45	.731	757	------	500
3/0	259/0266	20	30	30	45	.790	886	------	500
4/0	259/0286	20	30	30	45	.854	1040	------	500
250	427/0242	25	40	40	45	.957	1385	------	500
500	427/0342	25	40	40	45	1.227	2337	------	500

†Subject to ± 5% Variations.

*Not NEC Standard.

APPARATUS CABLE TYPE AIA—600 VOLTS

CONDUCTOR Flexible Stranded Copper | Felted Asbestos | Black Asbestos Braid

Application—Power leads in high temperature applications where flexibility is required. Dry locations only (not in conduit). Listed by Underwriters' Laboratories, Inc.

Single Conductor 600 Volts Stranded—SI-57055—125 C Maximum Copper Temperature

Size Awg or MCM	Stranding	Thickness in Mils: Felted Asb Wall	Asb Braid	Nominal O.D. in Inches	Ship. Wt Lb per 1000 Ft Reels	Standard Shipping Length: Coil	Reels
14	41/010	30	45	.225	41	500	------
12	65/010	40	45	.265	52	500	------
10	105/010	40	45	.290	68	500	------
8	133/0111	40	45	.338	95	500	------
6	133/0140	60	45	.422	240	------	500
4	133/0177	60	45	.476	303	------	500
2	133/0223	60	45	.546	390	------	500
1	259/0180	75	45	.618	572	------	500
1/0	259/0202	75	45	.664	647	------	500
2/0	259/0227	75	45	.717	746	------	500
3/0	259/0255	75	45	.776	873	------	500
4/0	259/0286	75	45	.840	1061	------	500

†Subject to ± 5% Variation.

*Not NEC Standard.

G-E DELTABESTON STATION CONTROL CABLE

SI-57056—600 VOLTS

Each tinned copper conductor insulated with 10 mils felted asbestos and 30 mils varnished cambric, 2 mil cellophane separator, 15 mil felted asbestos, 16 mil cotton braid, and 45 mil asbestos braid over-all — black finish (braids on singles color coded per NEMA Standards).

Application—Recommended for connection of control or signal circuits, in dry locations either exposed or in conduit, where the operating temperature is too severe for other insulations. Maximum copper temperature, 110 C (230 F). Resists heat, flame, moisture, oil, grease, and corrosive vapors.

Listed by Underwriters' Laboratories, Inc.

†Single conductor has single 45 mil asbestos braid only. (No cotton braid.)

‡Subject ± 5% Variation.

19/25 (12 Awg) SI-57056			19/22 (9 Awg)		
Number of Conductors	Ship. Wt Lb per 1000 Feet	Nominal O.D. in In.‡	Number of Conductors	Ship Wt. Lb per 1000 Feet	Nominal O.D. in In.‡
†1	87	.284	†1	112	.321
2	376	.565	2	433	.640
3	404	.600	3	488	.680
4	449	.655	4	558	.745
5	481	.720	5	612	.820
6	533	.790	6	691	.900
7	543	.790	7	716	.900
8	595	.855	8	885	.980
9	771	.925	9	1000	1.070
10	798	1.010	10	1045	1.160
11	846	1.045	11	1120	1.200
12	869	1.045	12	1162	1.200
13	922	1.100	13	1317	1.265
14	946	1.100	14	1350	1.265
15	1005	1.165	15	1449	1.340
16	1029	1.165	16	1502	1.340
17	1150	1.235	17	1570	1.420
18	1174	1.235	18	1612	1.420
19	1197	1.235	19	1655	1.420

G-E DELTABESTON MINE LOCOMOTIVE CABLE

TYPE AVA—SI-57033—600 VOLTS—110 C

Application—Rewiring of mine locomotives and similar equipments where extreme heat is a problem. The over-all diameters conform with bushing diameters generally regarded as standard in mining equipment.

Single Conductor 600 Volts SI-57033 110 C Maximum Copper Temperature

Size Awg	Str.	Thickness in Mils 1st Asb	V-C	2nd Asb	Braid	Max. O.D. in Inches	Ship. Wt Lb per 1000 Feet	Standard Shipping Length—Feet
14	41	10	35	14	31.5	.270	48	500
12	65	10	35	13	31.5	.290	62	500
10	105	10	35	10	31.5	.310	79	500
8	133	10	35	10	31.5	.355	107	500
6	133	10	35	10	31.5	.405	247	500
4	133	10	35	15	31.5	.475	310	500
2	133	10	35	15	37.5	.545	400	500
1	259	15	40	15	37.5	.620	515	500
1/0	259	15	40	15	37.5	.665	657	500
2/0	259	15	40	15	37.5	.715	756	500
3/0	259	15	40	15	37.5	.775	886	500
4/0	259	15	40	15	37.5	.845	1040	500

G-E DELTABESTON RANGE WIRE

SI-57251—300 VOLTS

Copper Conductor — Cellulose Acetate Wrap — Impregnated Felted Asbestos Insulation

An improved asbestos-insulated appliance lead wire recommended as the Standard Range Wire.

Designed for increased dielectric strength and moisture resistance.

This wire consists of a copper conductor, solid or flexible stranding, insulated with a cellulose acetate wrap and with a highly compressed covering of felted asbestos. The asbestos insulation is saturated with a moisture- and heat-resistant finishing compound.

Maximum Conductor Temperature 125 C.

Size Awg	No. of Strands	Thickness in Mils—Separator	Thickness in Mils—Asbestos	Nominal O.D. in Inches*	Ship. Wt. Lb. per 1000 Feet	Standard Shipping Lengths—Coil	Standard Shipping Lengths—Spool	Standard Shipping Lengths—Reel
Solid Conductor SI-57251								
18	1	4	29	.106	13	-----	500 or 2500	5000
16	1	4	29	.117	16	-----	500 or 2500	5000
14	1	4	29	.130	22	-----	500 or 2000	5000
12	1	4	29	.147	30	500	-----	2500
10	1	4	29	.168	44	500	-----	2500
8	1	4	29	.194	65	500	-----	2500
Flexible Stranded Conductor SI-57251								
18	16	3	30	.111	13	-----	500 or 2500	5000
16	26	3	30	.125	17	-----	500 or 2500	5000
14	41	3	30	.141	23	-----	500 or 2000	5000
12	65	3	30	.161	29	500	-----	2500
10	105	3	30	.186	47	500	-----	2500
8	165	3	30	.217	69	500	-----	2500

*Subject ±5% Variation.

G-E DELTABESTON APPLIANCE WIRE

STOVE WIRE—300 VOLTS

Listed by Underwriters' Laboratories, Inc.

SI-57044—Moisture-resistant

CONDUCTOR (Copper) — Impregnated Felted Asbestos (30 mil) — Asbestos Braid (45 mil)

Moisture-resistant Insulation applied on copper or nickel conductors is designed for wiring electric water heaters, bake ovens and electric ranges where heat is present and at the same time where moisture is likely to be encountered after the wire is in place in the device. The felted asbestos insulation is impregnated with a moisture-, heat-, and flame-resistant wax. The wax impregnation in the insulation will smoke when subjected to elevated temperatures. Maximum conductor temperature is 125 C (257 F).

SI-57058—Smokeless

CONDUCTOR (Copper) — Felted Asbestos (30 mil) — Asbestos Braid (45 mil)

Smokeless Insulation applied on copper or nickel conductors is designed for wiring electric ranges, space heaters and all other types of electric heating devices where heat but little or no moisture will be encountered after the wire is installed. The treatment of the insulation is such as to provide a minimum of smoking, but embodies no resistance to moisture. Maximum conductor temperature is 200 C (392F). Nickel conductors are recommended when the conductor temperature exceeds 150 C (302 F).

SI-57044 Moisture-Resistant Type AIA Solid Copper Conductor
SI-57058 Smokeless, Type AA Solid Copper Conductor

Size Awg	No. of Strands	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Feet	Standard Shipping Lengths Coils	Standard Shipping Lengths Reels
16	1	.205	30	500	2000
14	1	.220	36	500	2000
12	1	.235	46	500	2000
10	1	.255	59	500	1000
8	1	.280	81	500	1000
SI-57058 Smokeless, Type AA Solid Nickel Conductor					
14	1	.220	36	500	2000
12	1	.235	46	500	2000

SI-57044 Moisture-Resistant Type AIA Str. Copper Conductor
SI-57058 Smokeless, Type AA Stranded Copper Conductor

Size Awg	No. of Strands	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Feet	Standard Shipping Lengths Coils	Standard Shipping Lengths Reels
16	7	.210	31	500	2000
14	7	.225	38	500	2000
12	7	.245	47	500	2000
10	7	.270	62	500	1000
8	7	.300	85	-----	1000
SI-57058 Smokeless, Type AA Stranded Nickel Conductor					
14	7	.225	38	500	2000

‡Subject ± 5% Variation.

G-E DELTABESTON APPLIANCE WIRE

APPLIANCE WIRE—300 VOLTS

Moisture-Resistant
SI-57065—.032" Wall
SI-57066—.040" Wall

Conductor (Copper or Nickel)

Impregnated Felted Asbestos

Moisture-resistant Insulation—Consists of a highly compressed covering of felted asbestos which contains a moisture- and heat-resistant wax. The insulation is moisture-resistant but will smoke when subjected to elevated temperatures. Appliance lead wire with moisture-resistant insulation is recommended for wiring of electric ranges, stoves, hotplates and other electrical appliances where both heat and moisture resistance are desirable. Maximum conductor temperature is 125 C (257 F).

Smokeless
SI-57031—.030" Wall
SI-57064—.040" Wall

Conductor (Copper or Nickel)

Felted Asbestos

Smokeless Insulation—Consists of a highly compressed covering of felted asbestos which contains a minimum of organic material. This type is smokeless but will not resist moisture. Appliance lead wire with smokeless insulation is recommended for wiring of electrical appliances where high temperature with a minimum of moisture must be met, and a nonsmoking insulation is essential. Maximum conductor temperature is 200 C (392 F). Nickel conductors are recommended when the conductor temperature exceeds 150 C (302 F).

SI-57065 Moisture-Resistant Insulation (.032" Asbestos Wall) Solid Copper Conductor
SI-57031 Smokeless Insulation (.032" Asbestos Wall) Solid Copper Conductor

Size Awg	No. of Strands	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft.	Standard Shipping Lengths Coils	Spools	Reels
18	1	.104	13	.....	500 or 2500	5000
16	1	.115	16	.....	500 or 2500	5000
14	1	.128	22	.....	500 or 2000	5000
12	1	.145	30	500	.....	2500
10	1	.166	44	500	.....	2500
8	1	.192	65	500	.....	2500

SI-57031 Smokeless Insulation (.032" Asbestos Wall) Solid Nickel Conductor

18	1	.104	13	.....	500 or 2500	5000
16	1	.115	16	.....	500 or 2500	.....
14	1	.128	22	.....	500 or 2000	.....
12	1	.145	30	500	.....	2500
10	1	.166	44	500	.....	2500

SI-57065 Moisture-Resistant Insulation (.032" Asbestos Wall) Stranded Copper Conductor
SI-57031 Smokeless Insulation (.032" Asbestos Wall) Stranded Copper Conductor

18	16	.109	10	.....	500 or 2500	5000
16	26	.123	14	.....	500 or 2500	5000
14	41	.139	20	.....	500 or 2000	5000
12	65	.159	29	500	.....	2500
10	105	.184	43	500	.....	2500
8	165	.215	65	500	.....	2500

‡Subject ± 5% Variation.

SI-57031 Smokeless Insulation (.032" Asbestos Wall) Stranded Nickel Conductor

Size Awg	No. of Strands	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft.	Standard Shipping Lengths Coils	Spools	Reels
18	16	.109	13	.....	500 or 2500	5000
16	26	.123	17	.....	500 or 2500	5000
14	41	.139	23	.....	500 or 2000	5000
12	65	.159	32	500	.....	2500
10	105	.184	47	500	.....	2500

SI-57066 Moisture-Resistant Insulation (.040" Asbestos wall) Copper Conductor
SI-57064 Smokeless Insulation (.040" Asbestos Wall) Copper Conductor

18	1	.120	15	.....	500 or 2500	5000
16	1	.131	18	.....	500 or 2000	5000
14	1	.144	24	.....	500 or 1000	5000
12	1	.161	33	500	.....	2500
10	1	.182	46	500	.....	2500
8	1	.208	67	500	.....	2500

SI-57066 Moisture-Resistant Insulation (.040" Asbestos Wall) Copper Conductor
SI-57064 Smokeless Insulation (.040" Asbestos Wall) Copper Conductor

18	16	.125	15	.....	500 or 2500	5000
16	26	.139	19	.....	500 or 2000	5000
14	41	.155	25	.....	500 or 1000	5000
12	65	.175	35	500	.....	2500
10	105	.200	49	500	.....	2500
8	165	.231	71	500	.....	2500

SI-57064 Smokeless Insulation (.040" Asbestos Wall) Stranded Nickel Conductor

16	26	.139	19	1000	.....	.....

‡Subject ± 5% Variation.

G-E DELTABESTON APPLIANCE WIRE

APPLIANCE HINGE WIRE—300 VOLTS—200 C

↑ Conductor (Copper or Nickel) ↑ Felted Asbestos

Application: Especially designed for use in flexible hinges such as used on electric waffle irons. Will withstand heat and moisture inherent in waffle irons and, in addition, will maintain its flexibility after long periods of use.

↑ Stranded Nickel Conductor ↑ ↑ Impregnated Glass Fiber ↑ Varnished Glass Braid

Application: Recommended for flexible hinges such as used on electric waffle irons. The flexibility, abrasion resistance and small diameter of this lead wire is exceptional — where glass insulation is preferred.

Single Conductor (Nickel) 300 Volts SI-57031 200 C Maximum Conductor Temperature

Size Awg	No. of Strands	Felted Asb. Wall in Mils	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Std Ship. Lengths Spool	Reel
18	41/.0063	.032	.109	13	500	5000

Single Conductor (Nickel) 300 Volts SI-57366 200 C Maximum Conductor Temperature

Size Awg	No. of Strands	Glass Ins	Glass Braid	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Std Ship. Lengths Spool	Reel
18	41/.0063	.015	.0075	.090	12	500	5000

APPLIANCE GROUNDING WIRE—SI-57027—300 VOLTS

↑ Stranded Copper Conductor ↑ 15 Mil Felted Asbestos (Green)

Recommended for grounding any metallic part of electric range or stove to ground wire as required in present National Electrical Code.

Size Awg	No. of Strands	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Standard Ship. Length Spools	Reels
14	7	.107	19	500 or 2500	5000

GLASS-COVERED LEAD WIRE—SI-57291—300 VOLTS

↑ Stranded Copper or Nickel Conductor ↑ .026" Felted Asbestos ↑ .005" Glass Yarn Braid

Recommended for small motor leads, electrical appliances or control units. This wire is highly resistant to abrasion and moisture. It combines the high heat-resistant characteristics of felted asbestos with the inherent advantages of glass yarn braid.

SI-57291 Copper Conductor

Size Awg	No. of Strands	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Standard Ship. Length Spools	Reels
18	16	.107	11	500 or 2500	5000

SI-57291 Nickel Conductor

18	16	.107	11	500 or 2500	5000

‡Subject ± 5% Variation.

G-E DELTABESTON APPLIANCE WIRE

GLASS COVERED LEAD WIRE—SI-57324—300 VOLTS, 90 C

Application — Lead wire designed for use where requirements demand a medium-high temperature wire with improved moisture resistance—the new over-all lacquered glass braid offers added protection. Recommended for use on appliances such as sterilizers, etc., where heat and moisture are a problem.

△Listed by Underwriters' Laboratories, Inc.

↑ Tinned Copper Conductor ↑ Moisture Resistant Cellulose Acetate Wrap ↑ Impregnated Felted Asbestos Insulation ↑ Lacquered Glass Braid

Size Awg	No. of Strands	Thickness in Mils: Asbestos	Wrap	Asbestos	Braid	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Feet	Standard Shipping Length: Coil	Spool	Reel
Solid										
†△22	1	7.5	8	7.5	5	.081	10	------	500 or 2500	5000
†△20	1	7.5	8	7.5	5	.088	10	------	500 or 2500	5000
△18	1	....	8	10	5	.086	10	------	500 or 2500	5000
△16	1	....	8	10	5	.097	14	------	500 or 2500	5000
14	1	....	8	10	5	.110	20	------	500 or 2500	5000
12	1	....	8	10	5	.127	30	500	----------	5000
10	1	....	8	10	5	.148	46	500	----------	2500
Stranded										
†△22	7	7.5	8	7.5	5	.086	10	------	500 or 2500	5000
△20	10	....	8	10	5	.086	10	------	500 or 2500	5000
△18	16	....	8	10	5	.091	10	------	500 or 2500	5000
△16	26	....	8	10	5	.105	15	------	500 or 2500	5000
14	41	....	8	10	5	.121	21	------	500 or 2500	5000
12	65	....	8	10	5	.141	31	500	----------	5000
10	105	....	8	10	5	.166	48	500	----------	2500

†Sizes No. 20 and 22 Awg solid, also No. 22 Awg stranded, have a wall of felted asbestos over the conductor. Minimum order—1000 feet.

‡Subject ± 5% Variation.

G-E DELTABESTON CORDS

PERMANENT WAVE MACHINE WIRES—SI-57032—300 VOLTS

Application — For wiring permanent wave machines.

↑ Stranded Copper Conductor ↑ Felted Asbestos ↑ Cotton Braid

Size Awg	No. of Strands	Felted Asb. Wall in Mils	Nominal O.D. in Inches ‡	Ship. Wt. Lb per 1000 Feet	Standard Shipping Length: Spools	Coils	Reels
Single Conductor SI-57032 Braided (Black)							
18	41	32	.141	10	500	------	5000
16	65	32	.153	14	500	------	5000
14	105	32	.171	20	500	------	5000
Two Braided Conductors (Black and White)—Twisted—SI-57032							
18	41	32	.282	21	------	250	--------
16	65	32	.306	29	------	250	--------
14	105	32	.342	41	------	250	--------
Three Braided Conductors (Black, White and Red)—Twisted—SI-57032							
18	41	32	.305	32	------	250	--------
16	65	32	.330	44	------	250	--------
14	105	32	.370	62	------	250	--------

‡ Subject to ± 5% Variation.

G-E DELTABESTON FLEXIBLE CORDS

300 VOLTS

Flexible Copper Conductors—Insulated with Felted Asbestos

Finished with Asbestos Cotton or Rayon Braid

Deltabeston flexible cords are basically made up of multiple single leads. These wires can be furnished in the four types illustrated below to meet the individual needs of the customer.

The insulation, of felted asbestos, is both heat- and moisture-resistant and will neither dry up nor deteriorate under constant temperature.

The cords are finished with either cotton, rayon, or asbestos braid.

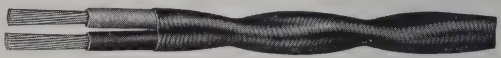
Type AFC—Two Plain Conductors each Cotton Braided and Twisted Together, SI-57042

For pendant usage, in dry locations—wherever asbestos insulated heat-resistant cord is required.

Size Awg	No. of Strands	Felted Asb Wall in Mils	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Feet	Standard Pkg in Feet—Coils	Standard Pkg in Feet—Reels
18	16	31	.282	24	250	1000
16	26	31	.312	32	250	1000
14	41	31	.342	44	250	1000

Type AFPD—Two Plain Conductors Twisted Together and Cotton Braid Over-all, SI-57043

For pendant usage, in dry locations—wherever asbestos insulated heat-resistant cord is required.



18	16	31	.252	24	250	1000
16	26	31	.280	32	250	1000
14	41	31	.312	44	250	1000

Type AFPO—Two Plain Conductors Laid Parallel—Asbestos Braid Overall, SI-57293

For pendant usage, in dry locations—wherever asbestos insulated heat-resistant cord is required.

18	16	31	.201x.312	43	250	1000
16	26	31	.215x.340	52	250	1000
14	41	31	.231x.372	65	250	1000
12	65	47	.283x.476	86	250	500

Type AFPO—Two Plain Conductors Laid Parallel — Cotton Braid Over-all, SI-57278

For pendant usage in dry locations—wherever asbestos insulated heat-resistant cord is required.

18	16	31	.144x.255	23	250	1000
16	26	31	.156x.279	31	250	1000
14	41	31	.174x.315	43	250	1000

Cords can be furnished cotton, rayon, or asbestos braid covered.

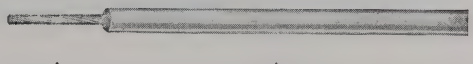
‡Subject ± 5% Variation.

G-E DELTABESTON FIXTURE WIRE

TYPE AF—300 VOLTS—150 C

PLAIN—TYPE AF

For wiring all types of interior lighting fixtures and other high wattage units such as sunlamps, therapeutic devices, etc., especially where temperatures exceed 90 C.



Type AF—Plain
Solid Conductor SI-57039 150 C Maximum Copper Temperature

Size Awg	No. of Strands	Felted Asb Wall in Mils	Minimum Average O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Std Shipping Length Coils	Spools	Reels
18	1	32	.102	11	------	500 or 2500	5000
16	1	32	.113	15	------	500 or 2500	5000
14	1	32	.126	21	------	500 or 2000	5000
12	1	47	.175	36	500	----------	2500
10	1	47	.196	50	500	----------	2500

Type AF—Plain
Stranded Conductor SI-57039 150 C Maximum Copper Temperature

18	16	32	.111	12	------	500 or 2500	5000
16	26	32	.125	16	------	500 or 2500	5000
14	41	32	.141	22	------	500 or 2000	5000
12	65	47	.193	39	500	----------	2500
10	105	47	.218	53	500	----------	2500

BRAIDED—TYPE AF

For wiring all types of interior lighting fixtures and other high wattage units such as sunlamps, therapeutic devices, etc., especially where temperatures exceed 90 C.

Type AF—Braided
Solid Conductor SI-57041 150 C Maximum Copper Temperature

Size Awg	No. of Strands	Felted Asb Wall in Mils	Minimum Average O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Std Shipping Length Coils	Spools	Reels
18	1	32	.132	11	------	500 or 2000	5000
16	1	32	.143	15	------	500 or 1000	5000
14	1	32	.156	21	------	500 or 1000	2500
12	1	47	.205	36	500	----------	2500
10	1	47	.226	50	500	----------	2000

Type AF—Braided
Stranded Conductor SI-57041 150 C Maximum Copper Temperature

18	16	32	.141	12	------	500 or 2000	5000
16	26	32	.155	16	------	500 or 1000	5000
14	41	32	.171	22	------	500 or 1000	2500
12	65	47	.223	39	500	----------	2500
10	105	47	.248	53	500	----------	2000

‡ Max. O.D. is minimum average +10%.

G-E DELTABESTON SWITCHBOARD WIRE

TYPE AVB—600 VOLTS—90° C.

SI-57011—SOLID CONDUCTOR **SI-57091—STRANDED CONDUCTOR**

Recommended for wiring switchboards and all other types of control apparatus. Resistant to heat, flame, oil and corrosive vapors. Approved for 90° C. (194° F.) service. Available with solid tinned copper conductor or stranded tinned copper conductor. Listed by Underwriters' Laboratories, Inc.

Single Conductor Solid SI-57011

Size Awg	No. of Strands	Thickness in Mils V-C	Asbestos	Braid	Nominal O.D. in Inches ‡	Ship Wt. Lb per 1000 Feet Reels	Standard Shipping Length Coils	Reels
18	1	30	20	15	.174	26	500	------
16	1	30	20	15	.185	30	500	------
14	1	30	20	15	.198	37	500	------
12	1	30	20	15	.215	47	500	------
10	1	30	20	17.5	.241	62	500	------
8	1	30	20	17.5	.267	85	500	------
6	1	40	30	17.5	.341	255	------	500
4	1	40	30	20	.383	310	------	500
2	1	40	30	20	.442	400	------	500

Single Conductor Stranded SI-57091

16	7	30	20	15	.192	31	500	------
14	7	30	20	17.5	.207	39	500	2000
12	7	30	20	17.5	.226	50	500	2000
10	7	30	20	17.5	.255	66	500	------
8	7	30	20	17.5	.285	90	500	1000
6	7	40	30	17.5	.363	263	------	500
4	7	40	30	20	.416	325	------	500
2	7	40	30	20	.476	415	------	500

G-E DELTABESTON SWITCHBOARD HINGE CABLE

TYPE AVB—SI-57092—600 VOLTS

Application—For swinging panel connections and general switchboard or panel work where an extra-flexible conductor is needed. Listed by Underwriters' Laboratories, Inc.

Single Conductor SI-57092—90 C Maximum Copper Temperature

Size Awg	No. of Strands	Thickness in Mils 1st Asbestos	V-C	2nd Asbestos	Braid	Nominal O.D. in In. ‡	Ship. Wt Lb per 1000 Feet Reels	Standard Shipping Length Coils	Reels
16	26	10	30	15	15	.203	30	500	------
14	41	10	30	15	15	.219	37	500	------
12	65	10	30	15	17.5	.244	46	500	------
10	105	10	30	15	17.5	.269	66	500	------
8	168	10	30	15	17.5	.306	92	500	------

‡Subject ± 5% Tolerance.

G-E DELTABESTON SWITCHBOARD WIRE

FLAMENOL-ASBESTOS CABLE—TYPE TA—600 VOLTS

Application — Wiring switchboards and all other types of control apparatus. Resists heat, flame, oil, and corrosive vapors. Listed by Underwriters' Laboratories, Inc.

↑ CONDUCTOR Solid or Stranded Tinned Copper ↑ Thermo-plastic Insulation ↑ Felted Asbestos ↑ Cotton Braid Gray Flame-resistant Finish

Solid Conductor—SI-57245 90 C Maximum Copper Temperature

Size Awg	No. of Strands	Thickness in Mils FLAMENOL	Asbestos	Braid	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Feet	Standard Shipping Length Coils	Reels
14	1	20	20	15	.185	37	500	-------
12	1	20	20	15	.200	47	500	2000
10	1	20	20	15	.220	62	500	-------
8	1	20	20	17.5	.250	85	500	1000
6	1	30	25	17.5	.315	255	------	500
4	1	30	25	17.5	.360	310	------	500

Stranded Conductor—SI-57246 90 C Maximum Copper Temperature

14	7	20	20	15	.190	39	500	2000
12	7	20	20	15	.210	50	500	2000
10	7	20	20	17.5	.240	66	500	-------
8	7	20	20	17.5	.270	90	500	-------
6	7	30	25	17.5	.340	263	------	500

G-E DELTABESTON SWITCHBOARD HINGE CABLE

FLAMENOL-ASBESTOS CABLE—TYPE TA—SI-57269—600 VOLTS

Application — For swinging panel connections and general switchboard or panel work where an extra-flexible conductor is needed. Listed by Underwriters' Laboratories, Inc.

↑ Conductor Flexible Tinned Copper ↑ Thermo-plastic Insulation ↑ Felted Asbestos ↑ Cotton Braid Gray Flame-resistant Finish

Single Conductor 600 Volts SI-57269 90 C Maximum Copper Temperature

Size Awg	No. of Strands	Thickness in Mils FLAMENOL	Asbestos	Braid	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Feet	Standard Shipping Length Coils	Reels
16*	26	20	20	15	.185	30	500	-------
14	41	20	20	15	.200	37	500	-------
12	65	20	20	15	.220	46	500	2000
10	105	20	20	17.5	.250	66	500	-------
8	168	20	20	17.5	.272	92	500	-------

‡Subject ± 5% Variation. *Registered Trade-mark of General Electric Company.
*Not NEC Standard.

G-E DELTABESTON APPLIANCE LEAD WIRE

Deltabeston Appliance Lead Wires are designed to give the utmost service in their special fields of application.

All conductors used, solid or stranded—copper or nickel—meet exacting General Electric Standards.

Copper should not be used where the temperature of the conductor exceeds 300° F. (148° C.). For temperatures above 300° F. nickel or monel are recommended. Nickel has a higher current-carrying capacity than monel. However, where a greater ductility is required, monel is preferable.

The insulation of felted asbestos, although a compressed, dense mass of intertangled fibre, has a greater flexibility than braided or wrapped insulations. Deltabeston Lead Wire is always concentric. Bending will not crack or reduce the thickness of the insulation. This wire strips freely and easily with no fraying or unraveling—at the same time it cannot be "pushed back" on the conductor. No ingredient used in the insulation will react with the conductor.

Smokeless Insulation: Consists of a highly compressed covering of felted purified asbestos which contains less organic material than any other type of electrical insulation. This type is **Smokeless** but will not resist moisture.

Moisture-resisting Insulation: Consists of a highly compressed covering of felted asbestos which contains a moisture-resistant wax. The insulation is **Moisture-resistant** but will not smoke at high temperatures.

Deltabeston Appliance Lead Wires will give unexcelled resistance to heat and flame and permanent, uninterrupted service. They are available in two major classes:

1 — Plain Waxed Finish (Lead Wire and Range Cable).

2 — Asbestos Braid (Stove and Range Wire).

G-E DELTABESTON RHEOSTAT WIRE

SI-57001—600 VOLTS—200 C

Application—Recommended for wiring rheostats, furnaces, oven connections and similar installations where subjected to heat, flame, oil, grease, and corrosive vapors. Listed by Underwriters' Laboratories, Inc.

↑ Conductor Solid or Stranded Tinned Copper ↑ Felted Asbestos ↑ White Asbestos Braid

Size Awg	No. of Strands	Thickness in Mils: Felted Asbestos	Thickness in Mils: White Asbestos Braid †	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Standard Shipping Length: Coils	Standard Shipping Length: Reels
Solid							
14	1	30	45	.220	27	500	------
12	1	30	45	.235	35	500	------
10	1	30	45	.255	48	500	------
8	1	30	45	.280	70	500	------
6	1	40	45	.335	107	------	500
4	1	40	45	.375	159	------	500
Stranded							
14	7	30	45	.225	28	500	------
12	7	30	45	.245	37	500	------
10	7	30	45	.270	51	500	------
8	7	30	45	.300	75	500	------
6	7	40	45	.355	111	------	500
4	7	40	45	.405	163	------	500
2	7	40	45	.465	243	------	500

‡Subject ± 5% Tolerance.
†Also furnished in black.

G-E DELTABESTON SWITCHBOARD WIRE—TYPE SHFS

Rayon Braid (Sizes No. 1-3 SHFS)
Cotton Braid (Sizes No. 4-100 SHFS)
Gray Flame-resistant Finish.

Application—For use on switchboards for U. S. Navy installations which require U. S. Navy approved wire.

↑ Bare Copper Conductor ↑ Thermoplastic Insulation ↑ Felted Asbestos

Single Conductor—SI-57250

Size SHFS	Copper Stranding	Approx Size Awg	Thickness in Mils: Thermo-plastic	Thickness in Mils: Asbestos	Thickness in Mils: Braid	Nominal O.D. in Inches ■	Ship. Wt. Lb per 1000 Feet	Standard Shipping Length‡: Coils	Standard Shipping Length‡: Reels
1	19/.007	20	15.0	17.5	7.5	.120	12.8	500	5000
1△	10/.010	20	15.0	17.5	7.5	.120	13.3	500	5000
1½△	41/.0063	18	15.0	17.5	7.5	.135	17.5	500	5000
2½△	26/.010	16	15.0	15.0	7.5	.140	22.2	500	5000
3	7/.020	15	15.0	19.0	7.5	.150	23.5	500	5000
3△	19/.0126	15	15.0	20.0	7.5	.155	25.3	500	5000
4△	7/.025	14	20.0	20.0	15.0	.190	23.5	500	2000
4	41/.010	14	20.0	20.0	15.0	.190	35.5	500	2000
6△	7/.031	12	25.0	20.0	15.0	.215	48.3	500	2000
6	19/.0179	12	22.0	20.0	15.0	.213	48.9	500	2000
6	65/.010	12	27.0	20.0	15.0	.225	51.3	500	2000
9△	7/.036	10	30.0	17.5	17.5	.241	64.9	500	2000
14	7/.045	8	30.0	20.0	15.0	.271	89.7	500	1000
14△	140/.010	8	29.0	17.5	17.5	.278	90.6	500	1000
23	7/.057	7	30.0	25.0	15.0	.316	129.9	------	1000
26△	7/7/.023	6	30.0	22.5	17.5	.355	153.6	------	500
40	19/.045	4	35.0	25.0	20.0	.391	207.9	------	500
42△	7/7/.029	4	32.0	22.5	20.0	.415	232.3	------	500
60	37/.040	2	40.0	25.0	20.0	.457	310.2	------	500
66△	19/7/.022	2	37.0	22.5	20.0	.495	338.5	------	500
100△	61/.040	1/0	37.0	25.0	20.0	.533	471.6	------	500

△In accordance with Present Issue Spec. MIL-C-915. Other sizes meet past issues of Spec. 15C1. ‡On direct Navy Purchases or when sent to Navy installations. ■Subject ± 5% Tolerance.

G-E DELTABESTON LOCOMOTIVE CAB CORDS

600/300 VOLTS

Application: Heavy duty cord for wiring locomotive cabs, droplights, etc.

Two stranded tinned copper conductors, each insulated with asbestos, varnished-cambric, and asbestos—twisted together. Black asbestos braid overall

Two Conductor 600 Volts Type AVPD SI-57122

Size Awg	No. of Strands	Thickness in Mils: 1st Asb Wall	V-C	2nd Asb Wall	Asbestos Braid	Nominal O.D. in Inches ‡	Ship. Wt Lb per 1000 Ft	Std Ship. Length in Coils
18	16	10	30	15	45	.392	54	250
16	26	10	30	15	45	.419	69	250
14	41	10	30	15	45	.450	84	250
12	65	10	30	15	45	.490	106	250

Application: Medium-duty cord for wiring locomotive cabs, droplights, etc.

Listed by Underwriters' Laboratories, Inc.

Two stranded bare copper conductors, each insulated with varnished-cambric and asbestos—twisted together with jute fillers—black asbestos braid overall

Two Conductor 300 Volts Type AVPD SI-57072

Size Awg	No. of Strands	Thickness in Mils: V-C	Felted Asb Wall	Asbestos Braid	Nominal O.D. in Inches ‡	Ship Wt Lb per 1000 Feet	Std Ship. Length in Coils
18	16	17	15	45	.305	45	250
16	26	17	15	45	.330	54	250
14	41	17	15	45	.365	68	250
12	65	23	17	45	.445	98	250

Application: All asbestos cord for wiring locomotive cabs, etc.

Listed by Underwriters' Laboratories, Inc.

Two stranded bare copper conductors asbestos-insulated and twisted together—asbestos braid overall

Two Conductor 300 Volts Type AFPD SI-57061

Size Awg	No. of Strands	Thickness in Mils: V-C	Felted Asb Wall	Asbestos Braid	Nominal O.D. in Inches ‡	Ship Wt Lb per 1000 Feet	Std Ship. Length in Coils
18	16	----	31	45	.312	44	250
16	26	----	31	45	.340	53	250
14	41	----	31	45	.372	66	250
12	65	----	47	45	.476	87	250

‡Subject ± 5% Variation.

G-E DELTABESTON LOCOMOTIVE HEADLIGHT WIRE

TYPE AVB—SI-57071—600 VOLTS 90 C

Application: Lighting circuits in locomotives where resistance to heat and vibration are required.

↑ **Stranded Tinned Copper Conductor** ↑ **Varnished Cambric** ↑ **Felted Asbestos** ↑ **Black Cotton Braid**

Size Awg	Stranding	Thickness in Mils: V-C	Asbestos	Braid	Maximum O.D. in Inches ‡	Shipping Weight Lb per 1000 Ft.	Standard Shipping Lengths: Coils	Reels
16	19/29	30	20	15	.205	31	500	2000
14	19/27	30	20	15	.220	37	500	2000
12	19/25	30	20	15	.242	47	500	2000

‡Subject ± 5% Variation.

G-E DELTABESTON AIRCRAFT WIRE

SI-57333—300 VOLTS

Application—Recommended for general purpose wiring in aircraft: Known as low-tension aircraft wire.

Fully Approved under specification AN-J-C-48A.

↑ Stranded Tinned Copper ↑ Thermo-plastic Insulation ↑ Cotton Braid Lacquer Finish

Single Conductor 300 Volts SI-57333 90 C Maximum Copper Temperature

Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.076	4.28	5.3	10,000	500 or 2500	
AN-20	7/.0126	.040	.084	5.84	7.1	10,000	500 or 2500	
AN-20	19/.0079	.040	.090	6.18	7.5	10,000	500 or 2500	
AN-18	7/.0159	.050	.094	8.24	9.9	10,000	500 or 2500	
AN-18	19/.0100	.050	.096	8.72	10.3	10,000	500 or 2500	
AN-16	19/.0113	.061	.105	10.84	13.3	10,000	500 or 2500	
AN-14	19/.0142	.076	.123	16.31	18.6	5,000	500 or 2000	
AN-12	19/.0179	.096	.153	25.08	27.5	5,000	500 or 1000	
AN-10	37/.0168	.122	.187	41.28	43.8	4,000		1,000
AN-10	105/.0100	.122	.189	41.06	43.6	4,000		1,000
AN-8[△]	168/.0100	.167	.237	64.38	68.8	2,000		1,000
AN-6[△]	266/.0100	.218	.282	97.47	105.0	1,000		1,000
AN-4[△]	420/.0100	.272	.342	149.82	158.0	1,000		500
AN-2[△]	665/.0100	.345	.410	230.22	245.0	500		500
AN-1[△]	817/.0100	.384	.457	280.20	300.0	500		250
AN-0[△]	1045/.0100	.432	.514	359.35	398.0	500		250
AN-00[△]	1330/.0100	.490	.562	451.76	489.0	500		250

SI-57360—300 VOLTS

Application—Recommended for general purpose wiring in aircraft at temperatures up to 90 C where increased resistance to solvents, moisture and fungus is desired. This construction also offers excellent abrasion resistance.

Fully approved under specification AN-J-C-48A.

↑ Stranded Tinned Copper ↑ Paper Separator on Size AN-14 thru AN-8 only ↑ Thermo-plastic Insulation ↑ Extruded Nylon Jacket

Single Conductor 300 Volts SI-57360 90 C Maximum Copper Temperature

Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.066	3.56	4.3	10,000	500 or 2500	
AN-20	7/.0126	.040	.074	5.12	6.2	10,000	500 or 2500	
AN-20	19/.0079	.040	.076	6.97	8.4	10,000	500 or 2500	
AN-18	7/.0159	.050	.084	7.52	9.0	10,000	500 or 2500	
AN-18	19/.0100	.050	.086	7.94	9.5	10,000	500 or 2500	
AN-16	19/.0113	.061	.093	9.82	11.3	10,000	500 or 2500	
AN-14	19/.0142	.076	.119	15.48	17.8	5,000	500 or 2000	
AN-12	19/.0179	.096	.139	23.37	26.9	5,000	500 or 1000	
AN-10	37/.0168	.122	.172	39.32	43.3	4,000		1,000
AN-10	105/.0100	.122	.178	39.08	43.0	4,000		1,000
AN-8	168/.0100	.167	.223	62.84	69.1	2,000		1,000

[△]Sizes No. 8 and larger have a paper separator over the conductor.

*Reg. Trade-mark of General Electric Company.

G-E DELTABESTON AIRCRAFT WIRE

SI-57369—300 VOLTS

Application: Recommended for general purpose wiring in aircraft where added abrasion resistance is desired. Known as shielded low-tension aircraft cable.

Fully approved under specification AN-C-168.

Single Conductor 300 Volts SI-57369 90 C Maximum Copper Temperature

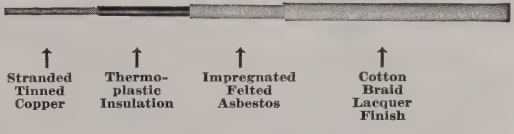
Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.097	8.44	10.9	10,000	500 or 2500	
AN-20	7/.0126	.040	.105	10.06	13.0	5,000	500 or 2500	
AN-20	19/.0079	.040	.107	10.50	13.4	5,000	500 or 2500	
AN-18	7/.0159	.050	.115	12.82	16.2	5,000	500 or 2500	
AN-18	19/.0100	.050	.117	13.46	16.7	5,000	500 or 2500	
AN-16	19/.0113	.061	.126	15.97	19.4	5,000	500 or 2000	
AN-14	19/.0142	.076	.144	22.29	25.6	5,000	500 or 1000	
AN-12	19/.0179	.096	.175	32.55	37.3	4,000		1,000
AN-10	37/.0168	.122	.208	50.31	54.1	3,000		1,000
AN-10	105/.0100	.122	.210	50.12	53.9	3,000		1,000
AN-8△	168/.0100	.167	.258	75.62	81.4	2,000		1,000
AN-6△	266/.0100	.218	.303	111.06	120.0	1,000		1,000
AN-4△	420/.0100	.272	.363	165.98	190.0	500		500
AN-2△	665/.0100	.345	.436	254.81	278.0	500		250
AN-1△	817/.0100	.384	.483	307.21	331.0	500		250
AN-0△	1045/.0100	.432	.540	389.84	433.0	500		250
AN-00△	1330/.0100	.490	.588	485.35	529.0	500		250

△Sizes No. 8 Awg and larger have a paper separator over the conductor.
*Reg. Trade-mark of General Electric Company.

SI-57332—300 VOLTS

Application: Recommended for general-purpose wiring in aircraft where added heat resistance is desired; known as low-tension aircraft cable.

Fully approved under specification AN-J-C-48A.



Single Conductor 300 Volts SI-57332 100 C Maximum Copper Temperature

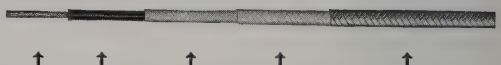
Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.086	4.84	6.0	10,000	500 or 2500	
AN-20	7/.0126	.040	.094	6.94	8.1	10,000	500 or 2500	
AN-20	19/.0079	.040	.096	6.86	8.5	10,000	500 or 2500	
AN-18	7/.0159	.050	.109	9.39	11.1	10,000	500 or 2500	
AN-18	19/.0100	.050	.111	9.84	11.5	10,000	500 or 2500	
AN-16	19/.0113	.061	.120	12.13	14.6	10,000	500 or 2500	
AN-14	19/.0142	.076	.144	18.19	20.6	5,000	500 or 2000	
AN-12	19/.0179	.096	.164	26.48	29.4	5,000	500 or 1000	
AN-10	37/.0168	.122	.197	43.04	45.8	4,000		1,000
AN-10	105/.0100	122	.199	42.85	45.6	4,000		1,000
AN-8△	168/.0100	.167	.255	67.49	72.1	2,000		1,000
AN-6△	266/.0100	.218	.303	101.12	109.0	1,000		1,000
AN-4△	420/.0100	.272	.363	154.13	163.0	1,000		500
AN-2△	665/.0100	.345	.430	234.82	251.0	500		500
AN-1△	817/.0100	.384	.478	285.33	306.0	500		250
AN-0△	1045/.0100	.432	.535	364.74	406.0	500		250
AN-00△	1330/.0100	.490	.582	456.90	498.0	500		250

G-E DELTABESTON AIRCRAFT WIRE

SI-57368—300 VOLTS

Application: Recommended for general purpose wiring in aircraft where added heat and abrasion resistance are desired; known as shielded low-tension aircraft cable.

Fully approved under specification AN-C-168.



Single Conductor 300 Volts SI-57368 100 C Maximum Copper Temperature

Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.107	9.16	12.0	10,000	500 or 2500	
AN-20	7/.0126	.040	.115	11.61	14.4	5,000	500 or 2500	
AN-20	19/.0079	.040	.117	11.71	14.9	5,000	500 or 2500	
AN-18	7/.0159	.050	.130	14.73	18.1	5,000	500 or 2500	
AN-18	19/.0100	.050	.132	15.22	18.6	5,000	500 or 2500	
AN-16	19/.0113	.061	.141	17.99	21.6	5,000	500 or 2000	
AN-14	19/.0142	.076	.165	25.10	28.7	5,000	500 or 1000	
AN-12	19/.0179	.096	.185	34.39	39.8	4,000		1,000
AN-10	37/.0168	.122	.218	52.44	56.6	3,000		1,000
AN-10	105/.0100	.122	.220	52.35	56.5	3,000		1,000
AN-8[△]	168/.0100	.167	.276	79.57	86.2	2,000		1,000
AN-6[△]	266/.0100	.218	.324	115.43	125.0	1,000		1,000
AN-4[△]	420/.0100	.272	.384	170.92	195.0	500		500
AN-2[△]	665/.0100	.345	.456	260.02	285.0	500		250
AN-1[△]	817/.0100	.384	.504	312.93	340.0	500		250
AN-0[△]	1045/.0100	.432	.561	395.85	442.0	500		250
AN-00[△]	1330/.0100	.490	.608	491.11	539.0	500		250

[△]Sizes No. 8 Awg and larger have a paper separator over the conductor.

SI-57334—300 VOLTS

Application: Recommended for use at temperatures up to 125 C. This aircraft cable offers circuit integrity in case of fire, but, due to its design, some abrasion and moisture resistance, and dielectric is sacrificed.

Fully approved under specification AN-J-C-48A.

Single Conductor 300 Volts SI-57334 125 C Maximum Copper Temperature

Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.090	5.50	7.0	10,000	500 or 2500	
AN-20	7/.0126	.040	.100	7.19	8.7	5,000	500 or 2500	
AN-18	7/.0159	.050	.110	9.83	11.2	5,000	500 or 2500	
AN-18	19/.0100	.050	.112	10.29	11.7	5,000	500 or 2500	
AN-16	19/.0113	.061	.124	12.82	14.1	5,000	500 or 2000	
AN-14	19/.0142	.076	.144	18.47	20.3	5,000	500 or 1000	
AN-12	19/.0179	.096	.164	26.64	29.3	4,000		1,000
AN-10	37/.0168	.122	.198	42.54	46.8	3,000		1,000
AN-10	105/.0100	.122	.200	42.53	46.8	3,000		1,000
AN-8	168/.0100	.167	.238	64.77	71.3	2,000		1,000
AN-6	266/.0100	.218	.284	96.26	106.0	1,000		1,000

G-E DELTABESTON AIRCRAFT WIRE

SI-57351—300 VOLTS

Application: Same as SI-57334 except the nylon jacket offers added abrasion resistance.

This aircraft wire is not approved under any Army-Navy specification.

Stranded Tinned Copper	Silicone Impregnated Felted Asbestos	Cellulose Acetate Tape	Silicone Impregnated Felted Asbestos	Lacquered Glass Braid	Extruded Nylon Jacket

Single Conductor 300 Volts SI-57351 125 C Maximum Copper Temperature

Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet		
						Ret Reels	N.R. Spools	N.R. Reels
AN-22	7/.0100	.032	.100	6.27	7.5	10,000	500 or 2500	
AN-20	7/.0126	.040	.110	8.08	9.7	5,000	500 or 2500	
AN-18	7/.0159	.050	.120	10.72	12.3	5,000	500 or 2500	
AN-18	19/.0100	.050	.122	11.25	12.9	5,000	500 or 2500	
AN-16	19/.0133	.061	.134	13.77	15.2	5,000	500 or 2000	
AN-14	19/.0142	.076	.156	19.92	21.9	5,000	500 or 1000	
AN-12	19/.0179	.096	.176	28.27	31.1	4,000		1,000
AN-10	37/.0168	.122	.210	44.62	49.1	3,000		1,000
AN-10	105/.0100	.122	.212	44.69	49.2	3,000		1,000

SI-57359—300 VOLTS

Application: Recommended for use in aircraft at temperatures as shown below.

Approved under specification AN-J-C-48A when conductor is tinned copper. Not approved when conductor is nickel-clad copper.

Stranded Tinned Copper	Teflon Tape Insulation	Silicone Treated Glass Braid

Single Conductor 300 Volts SI-57359

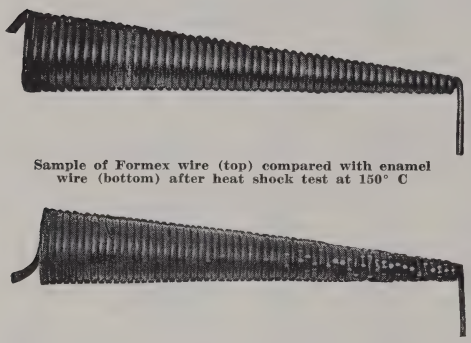
Maximum Copper Temperature—150 C
Maximum Nickel-Clad Copper Temperature—200 C

Cable Designation	Stranding	Max Bare Diam of Conductor	Max O.D. Finished Cable	Max Wt of Cable Lb/M Ft	Approx Ship. Wt in Lb per 1000 Ft	Standard Shipping Lengths in Feet		
						Ret Reels	N.R. Spools	N.R. Reels
AN-18	7/.0159	.050	.099	9.56	11.0	10,000	500 or 2500	
AN-18	19/.0100	.050	.101	10.09	11.6	10,000	500 or 2500	
AN-16	19/.0113	.061	.108	12.70	14.6	10,000	500 or 2500	
AN-14	19/.0142	.076	.122	17.96	20.6	5,000	500 or 2000	
AN-12	19/.0179	.096	.142	26.15	30.1	5,000	500 or 1000	
AN-10	37/.0168	.122	.171	41.67	45.8	4,000		1,000
AN-10	105/.0100	.122	.173	41.67	45.8	4,000		1,000
AN-8	168/.0100	.167	.217	66.46	73.1	2,000		1,000
AN-6	266/.0100	.218	.262	100.32	110.0	1,000		1,000
AN-4	420/.0100	.272	.318	152.13	167.0	1,000		500
AN-2	665/.0100	.345	.401	240.52	265.0	500		500
AN-1	817/.0100	.384	.448	291.47	321.0	500		250
AN-1/0	1045/.0100	.432	.496	366.18	403.0	500		250
AN-2/0	1330/.0100	.490	.543	458.97	505.0	500		250

G-E MAGNET WIRE

Magnet wire is the most important single ingredient entering into the manufacture of any wound electrical product.

General Electric has the correct type of magnet wire for every requirement.



Sample of Formex wire (top) compared with enamel wire (bottom) after heat shock test at 150° C

Formex: Formex Magnet Wire because of the physical properties of its insulating film maintains its dielectric strength throughout normal service longer than oleo-resinous enameled wires. Its abrasion resistance, flexibility, resistance to heat shock and film adhesion are superior features of Formex and enable it to retain its electrical properties under severe usage and service. Formex wire is outstanding in its resistance to moisture absorption and is highly resistant to commonly used solvents.

FEATURES OF FORMEX MAGNET WIRE:

Takes Less Space: Because of its construction, the winding-space factor of Formex wire is considerably higher than for other types, thereby making appreciable savings by getting the same amount of energy out of a smaller machine.

Easy to Wind: Its thin film makes Formex wire easy to bend and its smoothness permits the turns of the coil to fall readily into place.

More Feet Per Pound: Because there are more feet of wire in a pound of Formex wire than in a fibrous-insulated type, important savings are effected.

Facilitates Manufacture: With its tough and abrasion-resistant covering, Formex will stand up under the severe treatment of high-speed winding and assembly operations. Thus, it is possible to accelerate production, reduce factory rejects, and realize over-all lower manufacturng costs.

PROPERTIES OF FORMEX MAGNET WIRE

Dielectric Strength: Formex, because of the physical properties of the insulating film, maintains its dielectric strength during winding, assembly, varnish treatment, and life of the apparatus in which the wire is used.

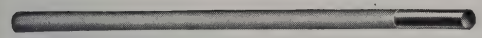
Power Factor: The power loss in a radio-frequency coil depends in part on the dielectric power loss in the insulation. Reliable tests show the improvement which Formex wire represents over conventional enameled wire in this respect.

Toughness: Film toughness is the property which enables magnet wire to maintain its electrical properties under the severe treatments incidental to its application to electric machines and operation in service. Formex rates high in the following related properties: Abrasion Resistance, Flexibility, Resistance to Heat Shock, and Adhesion of Film.

Heat and Shelf Aging: Comparative heat-aging tests produce less effect on Formex than on other types of magnet wire. Formex wires have been subjected to shelf aging for more than four years with no measurable effect on the film.

Temperature Rating: The film on Formex wire is organic and, as such, falls under AIEE Standards for Class A insulating materials which have a temperature rating of 105 C.

G-E MAGNET WIRE



Round Magnet Wire

Square Magnet Wire

Rectangular Magnet Wire

Moisture Resistance: In moisture absorption, there is little difference between the performance of Formex wire and that of conventional enameled wire. In continuity, however, the physical make-up and properties of Formex wire assure continuity after the apparatus is wound and ready for service.

Solvent Resistance: Formex wire is resistant to deleterious action from practically all commonly used solvents.

Varnish Treatments: Because Formex is highly resistant to the action of varnish solvents and heat shock, Formex wire wound assemblies may be subjected successfully to varnish solvents, to baking temperatures, and to baking cycles which must be avoided or used only with extreme caution on assemblies that are wound with conventional types of enameled wire.

FEATURES OF DELTABESTON WIRE:

Deltabeston Magnet Wire insulated with glass or asbestos is unsurpassed in performance where extreme heat, grease, oil, corrosive vapors, and other severe operating conditions exist. This feature makes Deltabeston extremely valuable in certain communications equipment and gear and in industrial electronic equipment. It has great flexibility, exceptional dielectric strength, heat resistance, abrasion and shock resistance.

THE SIZE AND SHAPE YOU WANT

with the type of insulation you prefer

Both Formex and Deltabeston magnet wire can be obtained in all the common shapes — round, rectangular, or square — and in the sizes you require. Furthermore, if your particular application demands the features of both types, a combination utilizing both asbestos and Formex insulations can be supplied.

FORMEX WIRE TYPES AVAILABLE

Round Formex Wire: Range of sizes includes all those covered by the NEMA General Standards for Vinyl-acetal-insulated Magnet Wire, comprising 4 Awg (0.204 in.) to .001 in.

Rectangular and Square Formex Wire: Rectangular and square Formex also available in a complete range of sizes.

Colored Formex Wire: To permit a positive, quick identification of circuits, Formex is available with color in the Formex enamel. One solid color (not a tracer) is always provided. Standard colors are green and yellow.

DELTABESTON TYPES AVAILABLE

Asbestos Insulated .....Class B-125 C max.
Glass Insulated .....Class-B-125 C max.

Both types available for Class H applications by use of silicone adhesives and impregnating compounds.

Round Deltabeston
No. 4/0 Awg to No. 25 Awg

Square Deltabeston
No. 2 Awg to No. 14 Awg

Rectangular Deltabeston
Full range of sizes available

DATA ON BARE AND INSULATED ROUND MAGNET WIRE

Awg or Inches	Bare Diam in Mils		Area Cross Section		Pounds Per 1000 Ft Bare	Feet Per Pounds Bare	Resistance—Ohms Per 1000 Ft at			Nominal Over-All Diameter in Mils										
										Enamel	Formex		Glass				Cotton			As-bes-tos
	Nominal	Tolerance + or −	Circular Mils	Square Mils			25 C	75 C	105 C	E Single	F Single	HF Heavy	G Single Glass Varnish	DG Double Glass Varnish	FG Single FORMEX Glass Varnish	HFG Heavy FORMEX Glass Varnish	C Single Cotton	DC Double Cotton	EC FC Enamel Cotton FORMEX Cotton	Type A
4	204	2.0	41620	32690	126.0	7.94	0.254	0.303	0.332				211	217			212	220		218
5	182	1.8	33120	26010	100.0	9.98	0.319	0.381	0.417				189	195			190	198		196
6	162	1.6	26240	20610	79.4	12.6	0.403	0.480	0.527				169	175			170	176		175
7	144	1.4	20740	16290	62.8	15.9	0.510	0.608	0.667				151	157			152	158		157
8	128	1.3	16380	12870	49.6	20.2	0.645	0.770	0.884		130	132	135	141	137	139	136	142		140
9	114	1.1	13000	10210	39.4	25.4	0.813	0.970	1.06		116	118	121	127	123	125	121	126		126
10	102	1.0	10400	8170	31.5	31.8	1.02	1.21	1.33	104	104	106	108	111	110	112	108	113	110	113
11	90.7	0.9	8230	6460	24.9	40.2	1.29	1.53	1.69	92.5	92.5	94.1	96.7	99.7	98.5	100.1	95.7	100	97.5	101.7
12	80.8	0.8	6530	5130	19.8	50.7	1.62	1.93	2.12	82.5	82.5	84.0	86.8	89.8	88.5	90.0	85.8	90.3	87.5	90.8
13	72.0	0.7	5180	4070	15.7	63.8	2.04	2.43	2.67	73.7	73.7	75.1	78.0	81.0	79.7	81.1	77.0	81.5	78.7	82.0
14	64.1	0.6	4110	3230	12.4	80.4	2.57	3.07	3.36	65.8	65.8	67.1	70.1	73.1	71.8	73.0	69.1	73.6	70.8	73.6
15	57.1	0.6	3260	2560	9.87	101	3.24	3.87	4.24	58.7	58.7	60.0	63.1	66.1	64.7	66.0	62.1	66.6	63.7	66.1
16	50.8	0.5	2580	2030	7.81	128	4.10	4.89	5.36	52.3	52.3	53.7	56.8	59.8	58.3	59.7	55.8	60.3	57.3	59.3
17	45.3	0.5	2060	1610	6.21	161	5.15	6.14	6.74	46.8	46.8	48.1	51.3	54.0	52.8	54.1	50.3	54.8	51.8	53.8
18	40.3	0.4	1620	1280	4.91	204	6.51	7.76	8.51	41.7	41.7	43.0	46.3	49.3	47.7	49.0	45.3	49.8	46.7	48.3
19	35.9	0.4	1290	1012	3.90	256	8.21	9.79	10.7	37.3	37.3	38.5	41.9	44.9	43.3	44.5	40.9	45.4	42.3	43.9
20	32.0	0.3	1020	804	3.10	323	10.3	12.3	13.5	33.3	33.3	34.5	38.0	41.0	39.3	40.5	37.0	41.5	38.3	40.0
21	28.5	0.3	812	638	2.46	407	13.0	15.5	17.0	29.8	29.8	30.9	34.5	37.5	35.8	36.9	33.5	38.0	34.8	36.5
22	25.3	0.3	640	503	1.94	516	16.5	19.7	21.6	26.5	26.5	27.6	31.3	34.3	32.5	33.6	29.8	33.8	31.0	33.3
23	22.6	0.2	511	401	1.55	647	20.7	24.7	27.1	23.7	23.7	24.8	28.6	31.6	29.7	30.8	27.1	31.1	28.2	30.6
24	20.1	0.2	404	317	1.22	818	26.2	31.2	34.3	21.2	21.2	22.2	26.1	29.1	27.2	28.2	24.6	28.6	25.7	28.1
25	17.9	0.2	320	252	0.970	1031	33.0	39.4	43.2	19.0	19.0	19.9	21.9	23.9	23.0	23.9	22.4	26.4	23.5	25.9
26	15.9	0.2	253	199	0.765	1307	41.8	49.9	54.7	16.9	16.9	17.8	19.9	21.9	20.9	21.8	20.4	24.4	21.4	23.9
27	14.2	0.1	202	158	0.610	1639	52.4	62.5	68.5	15.2	15.2	16.0	18.2	20.2	19.2	20.0	18.7	22.7	19.7	22.2
28	12.6	0.1	159	125	0.481	2081	66.6	79.4	87.1	13.5	13.5	14.3	16.6	18.6	17.5	18.3	17.1	21.1	18.0	20.6
29	11.3	0.1	128	100	0.387	2587	82.8	98.7	108	12.2	12.2	12.9	15.3	17.3	16.2	16.9	15.8	19.8	16.7	19.3
30	10.0	0.1	100	78.5	0.303	3304	106	126	139	10.9	10.9	11.5	14.0	16.0	14.9	15.5	14.5	18.5	15.3	18.0
31	8.9	0.1	79.2	62.2	0.240	4170	134	159	175	9.8	9.8	10.4					13.4	17.4	14.1	
32	8.0	0.1	64.0	50.3	0.194	5163	165	197	216	8.8	8.8	9.4					12.5	16.5	13.2	
33	7.1	0.1	50.4	39.6	0.153	6553	210	250	275	7.8	7.8	8.4					11.6	15.6	12.2	
34	6.3	0.1	39.7	31.2	0.120	8326	266	318	348	7.0	7.0	7.4					10.8	14.8	11.4	
35	5.6	0.1	31.4	24.7	0.0949	10530	337	402	441	6.2	6.2	6.6					10.1	14.1	10.6	
36	5.0	0.1	25.0	19.6	0.0757	13210	423	504	553	5.6	5.6	5.9					9.0	13.0	9.5	
37	4.5	0.1	20.3	15.9	0.0613	16310	521	621	681	5.0	5.0	5.4					8.5	12.5	8.9	
38	4.0	0.1	16.0	12.6	0.0484	20650	661	788	865	4.5	4.5	4.8					8.0	12.0	8.8	
39	3.5	0.1	12.3	9.7	0.0371	26970	859	1025	1124	3.9	3.9	4.2					7.5	11.5	7.8	
40	3.1	0.1	9.6	7.5	0.0291	34380	1101	1313	1440	3.5	3.5	3.8					7.1	11.1	7.4	
41	2.8	0.1	7.8	6.1	0.0237	42140	1350	1616	1765	3.1	3.1	3.4								
42	2.5	0.1	6.3	4.9	0.0189	52850	1691	2001	2210	2.8	2.8	3.0								
43	2.2	.1	4.84	3.80	0.0146	68200	2185	2608	2855		2.5	2.7								
44	2.0	.1	4.00	3.14	0.0121	82500	2645	3156	3460		2.3	2.5								
	1.75	.05	3.06	2.40	0.0092	108000	3450	4120	4510		2.05	2.15								
	1.50	.05	2.25	1.76	0.0068	147000	4700	5605	6140		1.70	1.9								
	1.25	.05	1.56	1.22	0.0047	211000	6760	8060	8830		1.45	1.55								
	1.00	.05	1.00	.78	0.0030	330000	10570	12610	13810		1.15	1.30								

This tabulation represents nominal diameters which are subject to both plus and minus variations.

G-E BX — BX L ARMORED CABLE

600 VOLTS — 60 C

BX ARMORED CABLE—600 VOLT SERVICE

G-E BX armored cable for exposed and concealed wiring in dry locations. BX is both flame-retardant and moisture-resistant. It is extremely flexible and easy to handle. BX offers maximum mechanical protection against installation damage and affords grounding protection for safety to personnel. Listed by Underwriters' Laboratories, Inc.

BX L LEADED ARMORED CABLE — 600 VOLT SERVICE

G-E BX L armored cable is for use where exposed to weather or continuous moisture—for underground runs — where embedded in masonry, concrete or fill in buildings in course of construction—where exposed to oil and gasoline or other materials having a deteriorating effect on rubber. Listed by Underwriters' Laboratories, Inc.

BARE ARMORED GROUND WIRE

Bare armored ground wire consists of a solid uninsulated copper wire enclosed in a galvanized interlocking steel armor. It is used, as its name implies, as a ground wire in cases where the bare wire has to be mechanically protected. Due to its flexibility and ease of installation time can be saved by using it in preference to rigid raceways.

Size	No. of Strands	Approx. Outside Diameter in In.	Max. Ft. in Std. Coil	Approx. Wt. in Lb. per 1000 Ft.	Fittings for Use With Single Strip Conductors					
					Size K. O. in In.	Straight Connectors	45-deg. Angle Connectors	90-deg. Angle Connectors	Straight Tite-Bite Connectors	90-deg. Angle Tite-Bite Connectors
BX TWO-CONDUCTOR — SI-53912										
14/2	1	.50	250	198	½	SP7120	.....	SP6192	.....	SP5321
12/2	1	.54	250	226	½	SP7120	SP6190	SP6192	SP5300	SP5321
10/2	1	.65	250	322	½	SP7124	SP6190	SP6185	SP5300	SP5321
8/2	7	.86	150	585	½	SP7123	SP6191	SP6183	SP5302	SP5323
6/2	7	1.02	100	699	¾	SP6122	.....	SP6184	SP5304	SP5325
BX THREE-CONDUCTOR — SI-53912										
14/3	1	.54	250	228	½	SP7120	SP6190	SP6192	.....	SP5321
12/3	1	.57	250	270	½	SP7124	SP6190	SP6185	SP5300	SP5321
10/3	1	.68	200	395	½	SP6121	.....	.....	SP5301	SP5322
8/3	7	.92	150	715	¾	SP6127	.....	SP6184	SP5304	SP5325
6/3	7	1.08	100	881	¾	SP6124	.....	SP6184	SP5304	SP5325
4/3	7	1.19	100	1094	1	SP6143	.....	.....	SP5305	.....
BX FOUR-CONDUCTOR — SI-53912										
14/4	1	.57	200	281	½	SP7124	.....	SP6185	SP5300	SP5321
12/4	1	.61	200	319	½	SP6121	.....	SP6185	SP5301	SP5322
BX L TWO-CONDUCTOR LEADED — SI-53925										
14/2	1	.58	200	383	½	SP7124	SP6190	SP6192	SP5300	SP5321
12/2	1	.61	200	431	½	SP7124	SP6190	SP6185	SP5300	SP5321
10/2	1	.65	150	607	½	SP6121	.....	SP6185	SP5301	SP5322
6/2	7	.98	100	1137	¾	SP6124	.....	SP6194A	SP5304	SP5325
BX L THREE-CONDUCTOR LEADED — SI-53925										
14/3	1	.65	150	454	½	SP7124	.....	SP6185	SP5300	SP5321
12/3	1	.74	150	485	½	SP6121	.....	SP6185	SP5301	SP5322
10/3	1	.79	150	804	½	SP6121	.....	.....	SP5301	.....
8/3	7	1.00	100	1252	¾	SP6124	.....	SP6184	SP5304	SP5325
6/3	7	1.09	100	1548	¾	SP6124	SP6194	SP6194A	SP5304	SP5325
4/3	7	1.21	100	2100	1	SP6143	.....	.....	.....	.....
BARE ARMORED GROUNDED WIRE — SI-53977										
8/1	1	.24	250	125	...	SP7050	.....	.....	.....	.....
6/1	1	.28	250	168	...	SP7051	.....	.....	.....	.....

BUILDING WIRE AND CABLE RUBBER-INSULATED

SINGLE CONDUCTOR

Code Grade Type R—600 Volts

Heat-Resisting Grade Type RH — 600 Volts

Moisture-Resisting Grade Type RW—600 Volts

Solid Conductors, Single Braid

Size A.W.G.	Conductors No. of Strands	Diam. Inches	Ins. Thick. Inches	Overall Diam. Inches	Net Wt. Lb. per 1000 Ft.
14	Solid	.06408	2/64	.19	26
12	Solid	.08081	2/64	.21	35
10	Solid	.1019	3/64	.23	49
8	Solid	.1285	4/64	.28	80
†6	Solid	.1620	4/64	.32	115
	Stranded Conductors, Single Braid				
14	7	.0726	2/64	.20	27
12	7	.0915	2/64	.22	37
10	7	.116	3/64	.24	52
8	7	.146	4/64	.30	84

Solid Conductors, Double Braid or Tape and Braid

14	Solid	.06408	2/64	.22	29
12	Solid	.08081	2/64	.24	38
10	Solid	.1019	3/64	.26	54
8	Solid	.1285	4/64	.32	85
†6	Solid	.1620	4/64	.36	120

Stranded Conductors, Double Braid or Tape and Braid

Double braid or tape and braid at Manufacturer's option on No. 6 and larger.

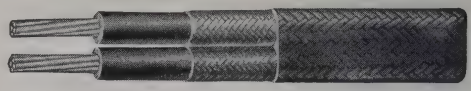
14	7	.0726	2/64	.23	30
12	7	.0915	2/64	.25	40
10	7	.116	3/64	.27	56
8	7	.146	4/64	.33	90
6	7	.184	4/64	.38	126
4	7	.232	4/64	.45	190
3	7	.260	4/64	.48	230
2	7	.292	4/64	.51	278
1	19	.332	5/64	.59	364
1/0	19	.373	5/64	.63	443
2/0	19	.418	5/64	.67	540
3/0	19	.470	5/64	.73	663
4/0	19	.528	5/64	.78	814
C.M.					
250,000	37	.575	6/64	.86	962
300,000	37	.630	6/64	.92	1139
350,000	37	.681	6/64	.97	1300
400,000	37	.728	6/64	1.02	1473
500,000	37	.814	6/64	1.10	1815
600,000	61	.893	7/64	1.21	2177
700,000	61	.964	7/64	1.28	2512
750,000	61	.998	7/64	1.32	2673
800,000	61	1.031	7/64	1.35	2848
900,000	61	1.093	7/64	1.41	3194
1,000,000	61	1.152	7/64	1.47	3530
1,250,000	91	1.289	8/64	1.64	4400
1,500,000	91	1.412	8/64	1.76	5240
1,750,000	127	1.526	8/64	1.88	6060
2,000,000	127	1.631	8/64	1.98	6890

†Not listed in National Electrical Code.

RUBBER-INSULATED BUILDING WIRE AND CABLE

TWIN CONDUCTOR

Code Grade Type RD—600 Volts



Solid Conductors, Double Braid

Size A.W.G.	Conductors No. of Strands	Diameter Inches	Insulation Thickness Inches	Overall Diameter Inches	Net Wt. Lb. per 1000 Ft.
14	Solid	.06408	2/64	.41x.22	62
12	Solid	.08081	2/64	.45x.24	82
10	Solid	.1019	3/64	.49x.26	114
8	Solid	.1285	4/64	.60x.32	174
†6	Solid	.1620	4/64	.68x.36	285
	Stranded Conductors, Double Braid				
14	7	.0726	2/64	.43x.23	64
12	7	.0915	2/64	.47x.25	84
10	7	.116	3/64	.52x.27	124
8	7	.146	4/64	.64x.33	186
6	7	.184	4/64	.72x.38	295

Made of two solid or stranded soft, tinned copper conductors, each insulated with Code, Type R; Heat-resisting, Type RH; and Type RW for moist locations.

Covered with a saturated braid, one black and one white for polarity. The two conductors are laid parallel and then covered with a closely woven braid, thoroughly saturated and finished with a flame- and moisture-resisting compound.

Duplex—Parallel—Solid

Size A.W.G.	No. and Dia. of Strands	Rubber Wall 64ths	Approx. Outside Dia.	Approx. Net Wt. M Feet Pounds	Std. Pkg.
14	1x.064	2	.220x.410	65	500′
12	1x.081	2	.240x.445	90	500′
10	1x.102	3	.270x.495	120	500′
8	1x.128	4	.335x.625	187	500′
6	1x.162	4	.360x.670	265	500′
	Duplex—Parallel—Stranded				
14	7x.0242	2	.230x.430	72	500′
12	7x.0305	2	.260x.475	95	500′
10	7x.0385	3	.290x.535	127	500′
8	7x.0486	4	.350x.655	198	500′
6	7x.0612	4	.380x.720	288	500′

TYPE RF FIXTURE WIRE—300 VOLTS

1. Tinned copper conductor. 2. Rubber insulation. 3. Cotton braid saturated with moisture-resisting, flame-retarding compound, smoothly finished in black, white, red, green, blue and yellow colors for identification.

Solid

Size A.W.G.	Ampere Carrying Capacity	No. and Dia. of Strands	Rubber Wall 64ths	Approx. Outside Dia.	Approx. Net Wt. M Feet	Std. Lgth. Feet Spls.	App. Shpg. Wt. Lbs.
18	3	1x40.30	1	.14	12	1000′	60
18	3	1x40.30	2	.16	15	500′	39
16*	6	1x50.82	1	.15	16	1000′	81
16	6	1x50.82	2	.17	20	500′	50
		Stranded					
18	3	7x15.3	1	.11	9	1000′	63
18	3	7x15.3	2	.13	12	500′	44
16*	6	7x19.2	1	.12	12	1000′	90
16	6	7x19.2	2	.14	16	500′	58

Standard package, 6 spools in carton.

*Not approved.

RUBBER-INSULATED LEAD-COVERED WIRE AND CABLE—600 VOLTS

Approved by National Board of Fire Underwriters for use in underground ducts, mines, tunnels or other places where moisture is encountered. Made in single, two or three conductors, solid or stranded, soft tinned copper each insulated with Code, Type R; Heat-resisting, Type RH; and Type RW, for moist locations; or special rubber compound.

Multiple conductors are polarized black and white for two conductors, and black, white and red for three conductors, with either tapes or moisture-repellent braids. The two conductors are paralleled and leaded; the three conductors are cabled with jute fillers to make round, taped and leaded.

Type RL—Single Conductor—Solid

Size Awg. or CM	No. and Dia. of Strands	Thick-ness Rubber Inches	Thick-ness Lead Inches	Diam. Overall Inches	Lgth. Per Reel	Approx. Wt.Lbs. Std.Pkg.
18*	.040	2/64	2/64	.195	1000′	121
16*	.051	2/64	2/64	.205	1000′	130
14	.064	3/64	2/64	.250	1000′	167
12	.081	3/64	2/64	.270	1000′	194
10	.102	3/64	3/64	.320	1000′	295
8	.128	4/64	3/64	.380	1000′	368
6	.162	4/64	4/64	.440	1000′	576

Type RL—Single Conductor—Stranded

14	7x.0242	3/64	2/64	.260	1000′	173
12	7x.0305	3/64	2/64	.280	1000′	202
10	7x.0385	3/64	3/64	.340	1000′	308
8	7x.0486	4/64	3/64	.400	1000′	433
6	7x.0612	4/64	4/64	.460	1000′	609
4	7x.0772	4/64	4/64	.510	1000′	723
3	7x.0867	4/64	4/64	.540	1000′	775
2	7x.0974	4/64	4/64	.570	1000′	855
1	19x.0664	5/64	4/64	.640	1000′	1016
1/0	19x.0745	5/64	4/64	.680	1000′	1133
2/0	19x.0837	5/64	4/64	.725	1000′	1275
3/0	19x.0940	5/64	4/64	.780	1000′	1452
4/0	19x.1055	5/64	4/64	.835	1000′	1659
250M	37x.0822	6/64	5/64	.945	1000′	2286
300M	37x.0900	6/64	5/64	1.000	1000′	2524
350M	37x.0973	6/64	5/64	1.055	1000′	2755
400M	37x.1040	6/64	5/64	1.100	1000′	2979
500M	37x.1162	6/64	5/64	1.185	1000′	3517
600M	61x.0992	7/64	6/64	1.325	500′	2261
700M	61x.1071	7/64	6/64	1.400	500′	2478
750M	61x.1109	7/64	6/64	1.430	500′	2587
800M	61x.1145	7/64	6/64	1.460	500′	2693
900M	61x.1215	7/64	6/64	1.530	500′	2904
1000M	61x.1280	7/64	6/64	1.580	500′	3211
1250M	91x.1172	8/64	7/64	1.780	500′	3995
1500M	91x.1284	8/64	7/64	1.900	500′	4500
1750M	127x.1174	8/64	7/64	2.025	500′	5188
2000M	127x.1255	8/64	7/64	2.130	500′	5691

*No. 18 and 16 Awg. manufactured for 300 volts only.

RUBBER-INSULATED LEAD-COVERED WIRE AND CABLE—600 VOLTS

Type RDL—Duplex Parallel—Solid

Size A.W.G.	No. and Diam. of Strands	Thick-ness Rubber Inches	Thick-ness Lead Inches	Approx. Overall Inches	Lgth. Per Reel	Approx. Wt. Lbs. Std. Pkg.
18*	.040	2/64	2/64	.190x .330	1000′	177
16*	.051	2/64	2/64	.200x .350	1000′	203
14	.064	3/64	2/64	.250x .440	1000′	308
12	.081	3/64	3/64	.300x .510	1000′	450
10	.102	3/64	3/64	.320x .550	1000′	495
8	.128	4/64	3/64	.380x .660	1000′	635
6	.162	4/64	4/64	.470x .810	1000′	905

Type RDL—Duplex Parallel—Stranded

14	7x.0243	3/64	2/64	.250x .440	1000′	274
12	7x.0305	3/64	3/64	.300x .510	1000′	460
10	7x.0385	3/64	3/64	.320x .550	1000′	530
8	7x.0486	4/64	3/64	.380x .660	1000′	670
6	7x.0612	4/64	4/64	.470x .840	1000′	960
4	7x.0772	4/64	4/64	.520x .910	1000′	1330
3	7x.0867	4/64	4/64	.555x .985	1000′	1350
2	7x.0972	4/64	4/64	.580x1.03	1000′	1600
1	19x.0664	5/64	5/64	.670x1.19	1000′	2110
1/0	19x.0745	5/64	5/64	.720x1.27	1000′	2450
2/0	19x.0837	5/64	5/64	.760x1.36	1000′	2710
3/0	19x.0940	5/64	5/64	.810x1.47	1000′	3070
4/0	19x.1055	5/64	5/64	.870x1.58	500′	1840

Type RML — Three Conductor Round — Solid

Size Awg. or CM						
18*	.040	2/64	3/64	.410	1000′	400
16*	.051	2/64	3/64	.440	1000′	430
14	.064	3/64	3/64	.560	1000′	665
12	.081	3/64	4/64	.600	1000′	750
10	.102	3/64	4/64	.640	1000′	840
8	.128	4/64	4/64	.770	1000′	1110
6	.162	4/64	5/64	.860	1000′	1400

Type RML — Three Conductor Round — Stranded

14	7x.0242	3/64	4/64	.570	1000′	690
12	7x.0305	3/64	4/64	.610	1000′	780
10	7x.0385	3/64	4/64	.670	1000′	900
8	7x.0486	4/64	4/64	.770	1000′	1155
6	7x.0612	4/64	5/64	.920	1000′	1475
4	7x.0772	4/64	5/64	1.030	1000′	2070
3	7x.0867	4/64	5/64	1.080	1000′	2200
2	7x.0974	4/64	5/64	1.160	1000′	2670
1	19x.0664	5/64	6/64	1.330	500′	1780
1/0	19x.0745	5/64	6/64	1.420	500′	1975
2/0	19x.0837	5/64	6/64	1.520	500′	2305
3/0	19x.0940	5/64	6/64	1.630	500′	2580
4/0	19x.1055	5/64	7/64	1.790	500′	3130
250M	37x.0822	6/64	7/64	1.960	500′	3715
300M	37x.0900	6/64	7/64	2.080	500′	4090
350M	37x.0973	6/64	7/64	2.190	500′	4540
400M	37x.1040	6/64	8/64	2.320	500′	5370
500M	37x.1162	6/64	8/64	2.500	500′	6080

*For 300-volt service only.

THERMOPLASTIC BUILDING WIRES

TYPE TW—600 VOLT SERVICE

Maximum Operating Temperature 60° C. (140° F.)

The outstanding feature of Type TW wire (formerly Type SNW) is its special insulation which has a low moisture absorption rate. It is ideally suited for installation in wet locations and for continuous submersion without the protection of a lead sheath.

Thermoplastic building wires are superaging, free stripping and easy pulling. They are resistant to flame, moisture, oils, acids and alkalies. These wires have a smooth, glossy finish and are available in a variety of distinctive, non-fading colors.

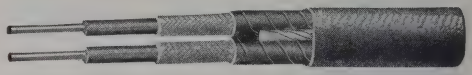
Sizes 14 to 4/0 inclusive are approved by Underwriters' Laboratories, Inc.

Size	Stranding	Thermoplastic Wall in In.	Approx. Overall in In.	Approx. Net Wt. in Lb. 1000 Ft.
14 Awg	Solid	2/64	0.130	20
12	Solid	2/64	0.147	28
10	Solid	2/64	0.168	41
8	Solid	3/64	0.227	69
14	7	2/64	0.140	22
12	7	2/64	0.158	30
10	7	2/64	0.182	44
8	7	3/64	0.246	75
6	7	4/64	0.314	119
4	7	4/64	0.363	176
2	7	4/64	0.423	263
1	19	5/64	0.496	339
1/0	19	5/64	0.537	416
2/0	19	5/64	0.583	514
3/0	19	5/64	0.634	633
4/0	19	5/64	0.692	787
250,000 CM	37	6/64	0.763	914
300,000	37	6/64	0.819	1084
350,000	37	6/64	0.870	1267
400,000	37	6/64	0.916	1415
500,000	37	6/64	1.002	1751
600,000	61	7/64	1.122	2106
700,000	61	7/64	1.194	2430
750,000	61	7/64	1.228	2596
800,000	61	7/64	1.260	2757
900,000	61	7/64	1.324	3083
1,000,000	61	7/64	1.373	3414

NON-METALLIC SHEATHED CABLES

WITH TYPE R INSULATED CONDUCTORS

Two Conductor—Parallel—600 Volts



Tinned copper conductors. Code rubber insulation. Composite paper twine and cotton braid — color coded. Folder paper — treated against moisture — wrapped on. Conductors laid parallel with jute ripcord filler in the interstices (tinned ground wire instead of jute for grounded cables). Cotton braid saturated with moisture-resisting, flame-retarding compound smoothly finished — black.

Applications. New and old house wiring for all circuits beyond entrance; wiring boats and trailers; for extensions to new outlets; for circuits for radios and refrigerators.

Type R or Type T Conductor

Size	Approx. Feet Per Coil	Approx. Lbs. per 1000 Ft. Without Ground Wire Type R	Without Ground Wire Type T	With Ground Wire Type R	With Ground Wire Type T
14/2	250	64	62	74	72
12/2	250	91	77	106	90
10/2	250	136	102	148	123
8/2	125	240	186	272	226
6/2	125	320	288	362	336
4/2	125	470	400	560	435
14/3	250	100	94	110	102
12/3	250	138	116	154	134
10/3	250	192	170	235	192
8/3	125	368	288	384	336
6/3	125	496	460	576	496
4/3	125	743	672	796	560

THERMOSTAT CONTROL CABLE

BRAIDED—ARMORED

Thermostat cable is made of annunicator wires color coded, cabled and has an outer braid of brown cotton, waxed finish. Unless otherwise specified the three conductor is made with one each red, white and blue wires; four conductor red, white, blue and red and white; five conductor red, white, blue, red and white and blue and white. The armored is of the same construction as the braided, but has a protective covering of soft steel.

Both are regularly furnished in coils of approximately 250, 500 or 1000 feet. Braided No. 18-3 conductor may be had on 500 foot spools without extra charge.

Approximate Weight in Pounds Per 1000 Feet

Size	Braided	Armored	Size	Braided	Armored
16—2	22	50	18—2	18	36
16—3	31.5	61	18—3	23	44
16—4	41	72	18—4	31	54
16—5	52	89	18—5	38	67
Four conductor composed of 2 No. 18 and 2 No. 16				38	70

FLEXIBLE CORDS

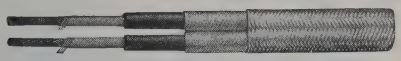
TYPE C TWISTED PAIR FLEXIBLE LAMP CORD

For pendant use in dry places where not subject to hard usage.

Size A.W.G.	Construction	Insulation Thickness, Inches	Approx. Overall Diam. Inches	Approx. Net Wt. Lb. Per 1000 Ft.	Approx. Gross Wt. Lb. Per 1000 Ft.
18	16/#30	2/64	.290	26	30
16	26/#30	2/64	.316	34	39
14	41/#30	3/64	.408	57	60
12	65/#30	3/64	.446	77	80

Construction: Two type FF fixture wires twisted together.

TYPE PO PARALLEL FLEXIBLE LAMP CORD



For use on portable lamps only, where not subject to hard usage.

Size A.W.G.	Construction	Insulation Thickness Inches	Current Carrying Cap., Amps.	Approx. Overall Diam. Inches	Approx. Net Wt.Lb. Per 1000 Ft.	Approx. Gross Wt.Lb. Per 1000 Ft.
18	16/#30	1/64	5	.229	18	21
18	16/#30	2/64	5	.293	25	28
16	26/#30	2/64	7	.319	34	40
14	41/#30	3/64	15	.411	55	60

TYPE PD REINFORCED CORD

For portable or pendant use in dry places. Each conductor is tightly braided with strong cotton. The conductors are then twisted and a strong glazed cotton is braided over them.

Size A.W.G.	Construction	Insulation Thickness Inches	Approx. Overall Diam. Inches	Net Wt.Lb. Per 1000 Ft.	Standard Put-up Feet	Shipping Container Feet
18	16/#30	3/32	.310	31	†250	‡1000
16	26/#30	3/32	.346	40	†250	‡1000

‡Cartons. †Coils.

TYPE P REINFORCED FLEXIBLE LAMP CORD

This cord is manufactured in soft black cotton finish. For pendant use or portable use in dry places.

Size A.W.G.	Construction	Insulation Thickness Inches	Approx. Overall Diam. Inches	Net Wt.Lb. Per 1000 Ft.	Standard Put-up Feet	Shipping Container Feet
18	16x.010	1/64	.245	35	†250	‡1000
18	16x.010	3/32	.350	54	†250	‡1000
16	26x.010	3/32	.380	71	†250	‡1000
14	41x.010	3/64	.450	110	†250	* 500

†Coils. ‡Cartons. *Papered.

TYPE PWP MOISTURE-PROOF REINFORCED CORD

For pendant or portable use in damp places.

The two copper conductors consist of a number of fine, soft copper wires to give flexibility, each conductor being covered with a close wrap of strong cotton to protect it from any chemical action of the rubber insulation. The individual conductors are insulated with seamless code standard rubber compound.

Size A.W.G.	Construction	Insulation Thickness Inches	Approx. Overall Diam. Inches	Net Wt.Lb Per 1000 Ft.	Standard Put-up Feet	Shipping Container Feet
18	16/#30	1/64	.280	46	†250	‡1000
18	16/#30	3/32	.344	67	†250	‡1000
16	26/#30	3/32	.370	80	†250	‡1000
14	41/#31	3/64	.460	129	†250	* 500

†Coils. ‡Cartons. *Papered.

DECK CABLE

Deck Cable is the same at Type PWP except for addition of heavy jute fillers to provide increased strength. Dimensions are approximately the same as for Type PWP, but weights differ slightly because of the jute fillers. Labeled as Type PWP Cord.

BRAIDED HEAVY DUTY TYPE K CORD

For pendant or portable use in damp places where it will be subject to hard usage.

Two flexible bunch stranded conductors of soft annealed copper are enclosed in a cotton separator, Code grade insulating compound, and a moistureproof color-coded braid of soft cotton.

Size A.W.G.	Construction	Current Carrying Cap., Amps.	Insulation Thickness Inches	Overall Diam. Inches	Net Wt.Lb. Per 1000 Ft.	Feet Per Coil or Reel
18	16/#30	5	2/64	.346	62	250*
16	26/#30	7	2/64	.372	73	250*
14	41/#30	15	3/64	.464	102	250*
12	65/#30	20	3/64	.502	127	250*
10	105/#30	25	3/64	.626	160	250*
8	84/#27	35	4/64	.768	300	1000†
6	84/#25	50	4/64	.852	405	1000†
4	133/#25	70	4/64	.976	505	1000†
2	259/#26	90	4/64	1.190	710	1000†

*Coil. †Reel.

DAMP-PROOF OFFICE WIRE

This wire is double braided, the inner braid saturated with black weatherproof compound. The outer braid is specially treated with wax, highly polished and will not collect dust. Dampproof office wire is carried regularly in the following colors: red, red and white, blue and blue and white, brown, brown and white, black, black and white, orange, orange and white. It is put up in coils of about 10 pounds each, or in spools of 5 or 10 pounds each, and packed in cases of approximately 150 and 200 pounds each.

Sizes 16 and 18 wire, in same colors, are also carried in duplex wire, being two separately insulated conductors, color coded, under one braid.

Size B.&S.	Single Conductor Feet Per Lb.	Single Conductor Lbs. per 1000 Ft.	Twisted Pair Feet Per Lb.	Twisted Pair Lbs. per 1000 Ft.	Duplex Feet Per Lb.	Duplex Lbs. per 1000 Ft.
14	50	20	24	41.7	28	35.7
16	68	14.7	33	30.3	37	27
18	100	10	48	20.8	53	19
20	136	7.4	65	15.3	70	14.25

ELEVATOR ANNUNCIATOR CABLE
FLEXIBLE

This type of cable is designed for connecting the annunciator in an elevator car with the signal push buttons on different floors.

Each conductor is composed of 16 strands of No. 30 soft copper wire (equivalent to No. 18 B. & S. gauge), laid together and insulated with two wrappings of cotton wound in reverse directions and one cotton braid, color coded. These insulated conductors are cabled around a stout core of jute, which gives extra tensile strength and increased flexibility, and the whole is covered with two outside braids of cotton, the inner braid white and the outer black. This is a dry braid cable.

Weights per 1000 Feet

No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.
4	39	8	71	12	102	16	130	20	160
5	47	9	79	13	109	17	138	....	.....
6	55	10	86	14	115	18	145	....	.....
7	63	11	94	15	123	19	152	....	.....

ANNUNCIATOR WIRE

Annunciator wire is copper wire insulated with two wraps of cotton wound in reverse direction, saturated in paraffine and highly polished. Put up on 7 and 1 pound spools and in 1 and ½ pound coils.

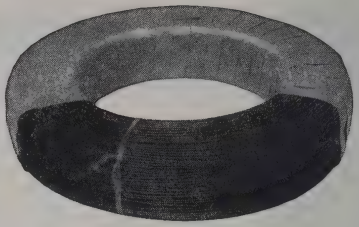
Size B&S	Single Conductor Feet Per Lb.	Single Conductor Lbs. per 1000 Ft.	Twisted Pair Feet Per Lb.	Twisted Pair Lbs. per 1000 Ft.	Duplex Feet Per Lb.	Duplex Lbs. per 1000 Ft.
12	44	22.7	21	47.6	....	....
14	68	14.7	33	30.3	....	....
16	104	9.6	51	19.6	40	25
18	158	6.4	77	13	55	18.2
20	225	4.5	108	8.25	75	13.3

Size B&S	Advance Over Base	Size B&S	Advance Over Base
16	$0.05	20	$0.07
18	.06		

Extra Advances

Tinned Wire $0.02
Twisted Pairs .... .01
½ lb. Coils..... .02
1 Lb. Coils.....$0.01
1 Lb. Spools..... .02

WEATHERPROOF ANNUNCIATOR WIRE

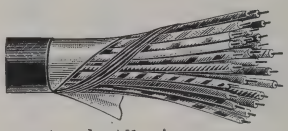


No. 18 solid, single braid. Insulated with one cotton braid thoroughly saturated with weatherproof compound. Put up in 5-pound coils. Weight 8 pounds per 1000 feet.

Prices upon application.

TELEPHONE CABLES

TYPE B BRAIDED CABLES



For all indoor work provided that runs do not occur in places where excessive dampness or mechanical injury is likely to be encountered. All wires are served with one winding of silk and one of cotton. The wires are cabled up and impregnated with moisture resisting compound.

Cat. No.	No. Cond.	Conductors	O.D. In.	Price per 100 Ft.
B- 4	4	4 No. 18	5/16	$7.50
B- 8	8	3 No. 18, 5 No. 22	1/4	14.78
B-12	12	3 No. 18, 9 No. 22	8/32	20.15
B-16	16	4 No. 18, 12 No. 22	6/16	22.50
B-21	21	4 No. 16, 17 No. 22	3/8	27.75
BP-26	26	2 prs. No. 16, 11 prs. No. 22	7/16	36.00
BP-38	38	2 prs. No. 16, 17 prs. No. 22	13/32	45.20
BP-46	46	2 prs. No. 16, 21 prs. No. 22	1/2	52.65

TYPE L LEAD ENCASED CABLES

Type "L" cables in all sizes are constructed exactly like the "B" type except that instead of the braided outer casing a lead sheath of suitable thickness is used. Intended for use out of doors, underground and wherever dampness or moisture exists.

Cat. No.	No. Cond.	Conductors	O.D. In.	Price per 100 Ft.
L- 4	4	4 No. 18	5/16	$27.50
L- 8	8	3 No. 18, 5 No. 22	9/32	41.25
L-12	12	3 No. 18, 9 No. 22	6/16	48.15
L-16	16	4 No. 18, 12 No. 22	13/32	52.75
L-21	21	4 No. 16, 17 No. 22	11/32	62.35
LP-26	26	2 prs. No. 16, 11 prs. No. 22	7/16	71.40
LP-38	38	2 prs. No. 16, 17 prs. No. 22	17/32	99.50
LP-46	46	2 prs. No. 16, 21 prs. No. 22	8/16	109.10

WEATHERPROOF WIRE

SOLID—DOUBLE AND TRIPLE BRAID

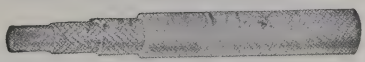
Size B.&S.	Double Braid: Approx. Lbs. Per 1000 Ft.	Double Braid: Approx. Lbs. Per Mile	Double Braid: Diam. In. Over Insulation	Triple Braid: Approx. Lbs. Per 1000 Ft.	Triple Braid: Approx. Lbs. Per Mile	Triple Braid: Diam. In. Over Insulation
0000	709	3,744	21/32	745	3,933	11/16
000	574	3,031	39/64	605	3,195	11/16
00	462	2,439	5/8	495	2,613	11/16
0	374	1,975	39/64	402	2,123	11/32
1	288	1,521	1/2	305	1,610	23/32
2	233	1,230	3/8	250	1,320	27/64
4	149	787	21/64	163	861	3/8
6	99	523	3/32	112	591	21/64
8	68	359	1/4	75	396	19/64
10	46	243	3/32	53	280	17/64
12	30	158	11/64	35	185	13/64
14	21	111	5/32	25	132	1/8
16	16	84	9/64	20	106	7/64
18	12	63	1/8	16	85	11/64

STRANDED TRIPLE BRAID

Capacity Circular Mils	Approx. Wt. Lbs. Per 1000 Ft.	Approx. Wt. Lbs. Per Mile	Diam. Over Insulation	No. Wires	Diam. Each
1,000,000	3,520	18,586	1 5/8	61	.128
900,000	3,200	16,896	1 7/16	61	.1215
800,000	2,875	15,180	1 23/64	48	.129
700,000	2,477	13,079	1 3/32	37	.1375
600,000	2,155	11,378	1 7/32	37	.128
500,000	1,820	9,610	1 1/8	27	.136
450,000	1,646	8,691	1 5/64	27	.129
400,000	1,499	7,915	1 1/32	27	.122
350,000	1,305	6,890	1	19	.136
300,000	1,105	5,834	15/16	19	.126
250,000	937	4,948	7/8	12	.145
B. & S. Gauge					
0000	800	4,225	53/64	7	.174
000	639	3,374	25/32	7	.155
00	510	2,693	23/32	7	.138
0	415	2,191	21/32	7	.123
0000	800	4,225	53/64	12	.133
000	639	3,374	25/32	12	.199
00	510	2,693	23/32	7	.138
0	415	2,191	21/32	7	.123
1	310	1,637	33/64	7	.1095
2	252	1,330	29/64	7	.0975
4	166	877	19/32	7	.077
6	115	608	23/64	7	.062
8	80	425	21/64	7	.049
Circular Mils	STRANDED DOUBLE BRAID				
1,000,000	3,456	18,248	1 17/32	61	.128
900,000	3,050	16,104	1 11/32	61	.1215
800,000	2,729	14,410	1 17/64	48	.129
700,000	2,353	12,423	1 3/16	37	.1375
600,000	2,093	11,050	1 1/8	37	.128
500,000	1,725	9,108	1 3/32	27	.136
450,000	1,563	8,253	1	27	.129
400,000	1,385	7,313	15/16	27	.122
350,000	1,200	6,336	29/32	19	.136
300,000	1,045	5,518	27/32	19	.126
250,000	878	4,636	25/32	12	.145
B. & S. Gauge					
0000	744	3,928	3/4	7	.174
000	600	3,168	45/64	7	.155
00	480	2,534	41/64	7	.138
0	388	2,049	37/64	7	.123
1	300	1,584	15/32	7	.1095
2	240	1,267	13/32	7	.0975
4	155	818	23/64	7	.077
6	102	539	7/32	7	.062
8	68	359	9/32	7	.049

SLOW BURNING WIRE

SOLID NEW CODE—TRIPLE BRAID



Size B. & S.	Approximate Weight Lbs. 1,000 Ft.	Approximate Weight Lbs. Per Mile	Approx. Dia. In. Over Ins.	Diam. Reel Inches	Reels: App. Length Feet	Reels: App. Wt. Lbs.
1	360	1,910	23/32	28	1,000	360
2	290	1,550	27/64	28	1,320	380
4	200	1,056	3/8	28	2,000	400
6	150	792	21/64	28	2,640	396
8	100	528	13/64	28	2,640	265
10	80	422	17/64	28	3,500	280
12	50	264	13/64	----	--------	------
14	40	210	1/8	----	--------	------
16	30	158	9/64	----	--------	------
18	25	132	11/64	----	--------	------

Case Coils: 8 Coils to a Case: Size B.&S.	Lbs. per Coil	Lbs. per Case	Reels: Diam. Head In.	Size Arbor: Traverse Inches	Size Arbor: To Use Inches	Wt. Lbs.
8	44	350	50	18	2	285
10	40	320	36	12	2	110
12	42	335	30	8½	1¼	40
14	35	280	28	8½	1¼	35
16	30	240	----	--------	------	------
18	25	200	----	--------	------	------

Sizes Nos. 1 to 10 inclusive can also be supplied in full-reel and half-reel coils.

STRANDED NEW CODE TRIPLE BRAID

Size Circular Mils	Approximate Weight Lbs. 1,000 Ft.	Approximate Weight Lbs. Per Mile	Approx. Dia. In. Over Ins.	Dia. Reel In.	Reels: Appr. Lgth. Feet	Reels: App. Wt. Lbs.
1,000,000	3,910	20,650	1– 5/8	50	660	2,580
900,000	3,545	18,717	1– 7/16	50	720	2,553
800,000	3,180	16,769	1–23/64	50	770	2,450
700,000	2,700	14,256	1– 9/32	50	950	2,565
600,000	2,400	12,672	1– 7/32	50	1,100	2,640
500,000	2,077	10,966	1– 1/8	50	1,320	2,742
450,000	1,900	10,032	1– 5/64	50	1,400	2,660
400,000	1,710	9,030	1– 1/32	50	1,500	2,565
350,000	1,490	7,870	1	50	1,650	2,460
300,000	1,277	6,750	15/16	50	1,800	2,300
250,000	1,115	5,900	7/8	50	2,000	2,230
Size B. & S.						
0000	1,000	5,280	53/64	50	2,200	2,200
000	810	4,277	25/32	50	2,750	2,227
00	620	3,273	22/32	50	3,500	2,170
0	510	2,693	21/32	50	4,500	2,295
0000	1,000	5,280	53/64	30	528	528
000	810	4,277	25/32	30	650	526
00	620	3,273	22/32	30	700	435
0	510	,2693	21/32	30	900	459
1	362	1,911	33/64	28	1,100	400
2	315	1,663	29/64	28	1,320	416
4	215	1,135	13/32	28	2,000	430
6	155	818	23/64	28	2,500	388
8	107	565	21/64	28	2,500	213
10	85	449	5/16	28	2,640	225

Reels

Diam. Head Inches	Traverse Inches	Size Arbor To Use Inches	Weight Pounds
50	18	2	285
36	12	2	110
30	8½	1¼	40
28	8½	1¼	35

ALUMINUM CABLE, STEEL-REINFORCED BARE

A. C. S. R. Code word	Cross section Aluminum Cir. Mils. or A.W.G.	Cross section Aluminum Square Inches	Cross section Total Square Inches	Copper Equivalent C.M. or A.W.G.	STRANDING Number and diameter of strands, inches Aluminum	STRANDING Steel	Diameter, inches Complete Cable	Diameter, inches Steel Core	Ohms per mile (61 % at 25°-C.)	Ultimate strength, Pounds
Swan	4	0.0328	0.0383	6	6x0.0834	1x0.0834	0.250	0.0834	2.24	1830
Swanate	4	0.0328	0.0411	6	7x0.0772	1x0.1029	0.257	0.1029	2.24	2288
Sparrow	2	0.0521	0.0608	4	6x0.1052	1x0.1052	0.316	0.1052	1.41	2790
Sparate	2	0.0521	0.0653	4	7x0.0974	1x0.1299	0.325	0.1299	1.41	3525
Raven	1/0	0.0829	0.0967	2	6x0.1327	1x0.1327	0.398	0.1327	0.885	4280

WEIGHTS, STANDARD SHIPMENT, ETC.

A. C. S. R.	WEIGHT, POUNDS Per 1,000 Feet			WEIGHT, POUNDS Per Mile			Per Cent of Total Weight		STANDARD SHIPMENT Reels				STANDARD SHIPMENT Coils	
Cir. Mils. or A.W.G.	Total	Alum.	Steel	Total	Alum.	Steel	Alum.	Steel	Length of Each Piece, Feet	No. Pieces on Reel	Lb. on Reel	Diam. of Reel, Inches	Length of Each Piece, Feet	Lb. in Coil
4	57.6	39.0	18.6	304	206	98	67.7	32.3	8700	2	1000	40	4350	250
4	67.4	39.0	28.4	356	206	150	57.8	42.2	7605	2	1024	40	3802	255
2	91.6	62.0	29.6	484	327	156	67.7	32.3	5475	2	1000	40	2737	250
2	107.2	62.0	45.2	566	327	239	57.8	42.2	4775	2	1024	40	2387	255
1/0	145.6	98.5	47.1	769	520	249	67.7	32.3	6900	1	1000	40	1725	250

The stranding must be specified on all orders. All cable will be shipped on reels unless otherwise ordered. Reels for A. C. S. R. sizes 4 to 1/0 inclusive have plywood wrapping. 1/0 A. C. S. R. and smaller may be ordered on 30-inch reels containing one-half the amount on a 40-inch reel.

Number of reels in Average Car:
40-inch.....40 30-inch.....60

Number of coils according to size of car. Minimum Carload to all points east of the Mississippi River is 30,000 lb. gross weight.

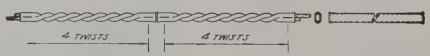
The "Standard Lengths" given in this table are approximate. The allowable tolerance shall be plus or minus 5 per cent for all cables larger than No. 1. For No. 1 and smaller the tolerance shall be plus or minus 10 per cent.

An amount not exceeding 7 per cent of the total weight of any one order may be shipped in random lengths, but no piece shorter than 50 per cent of the standard length will be shipped. No random length will be wound on the same reel with a standard length, and all reels will be marked showing number of pieces and length of each piece.

The actual weight of cable will be held within a tolerance of plus or minus two per cent (2%) of the weights listed. Invoicing will be based on actual weight.

ALUMINUM CABLE ACCESSORIES

TWISTING JOINTS FOR ALUMINUM CABLE—STEEL REINFORCED



The twisting joint is the simplest joint for 7 or 8 strand A.C.S.R. By properly applying the joint it will develop 90 per cent or better of the listed ultimate strength of the cable.

For A.C.S.R. sizes No. 4/0 to No. 1/0 inclusive give each sleeve 4½ complete twists. This requires setting one wrench at the inner end of each sleeve and setting the other wrench three times progressing toward the outer end of each sleeve.

For A.C.S.R. sizes No. 1 to No. 6 inclusive give each sleeve 4 complete uniform twists as shown in illustration. This requires one setting of the twisting wrenches at the ends of each sleeve.

The wrenches for above A.C.S.R. sizes should not be closer than ¼ inch to the end of the sleeve.

Cat. No.	A.C.S.R. Size	Overall Dia. Cable In.	Minor I.D. Oval Sleeve, Inch	Major I.D. Oval Sleeve, Inch	Thickness of Wall of Sleeve Inch	Length Each Sleeve Inches	I.D. Round Tubing Inches before being made Oval Shape	Twist Each Sleeve	Total Weight per Joint, Lbs.
544	4	0.250	.0328	0.623	0.065	12	33/64	4	0.28
542	2	0.316	0.391	0.758	0.065	15	5/8	4	0.42
540	1/0	0.398	0.469	0.910	0.065	19	¾	4½	0.60

Each joint consists of two sleeves. Catalog number specifies complete joint i.e., two sleeves. For making this joint two twisting wrenches are required. In ordering them specify same catalog number as joint. Joints are made of aluminum.

ALUMINUM CABLE ACCESSORIES

ALUMINUM ROUND TIE WIRE

Size A.W.G.	Diameter Inch	Tensile Strength Pounds	Wt. Lbs. Per 1000 Ft.
6 Aluminum	0.162	210	24.2
7 Strong alloy aluminum	0.144	425	18.9

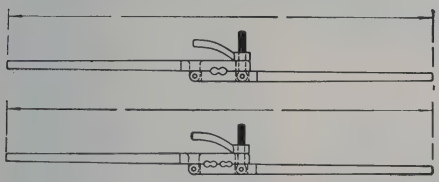
Both No. 6 aluminum and No. 7 strong alloy tie wire are used for No. 4, 3, 2, 1, and 1/0 ACSR with armor rods. Standard shipment of tie wire is in 10, 25 and 50 pound coils.

ALUMINUM FLAT ARMOR WIRE

Aluminum flat armor wire in 0.05 inch x 0.30 inch size is supplied on 10 pound and 35 pound spools.

Cable Sizes A.W.G.	Thickness Inch	Width Inch	Pounds Per 1000 Ft.
4 and larger	0.05	0.30	17.6

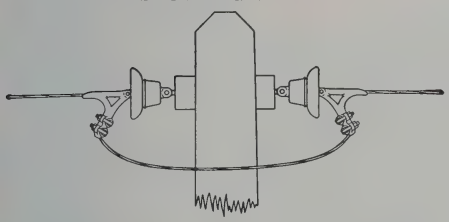
TWISTING JOINT WRENCHES

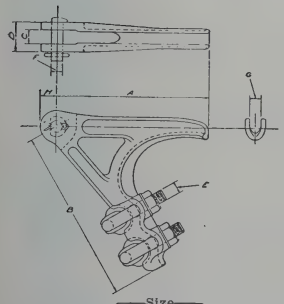


Catalog number is the same as the twisting joint with which the wrench is used except No. 544-2 wrench which accommodates both No 544 and No. 542 joints.

Cat. No.	A.C.S.R. Size	Length Inches	Wt. Lbs., per Set, (Steel)
544	4	30 7/16	10.5
544–2	4&2	30 7/16	10.5
542	2	30 7/16	10.5
540	1/0	30 7/16	10.5

DEAD END CLAMPS FOR A.C.S.R. SNUBBING TYPE



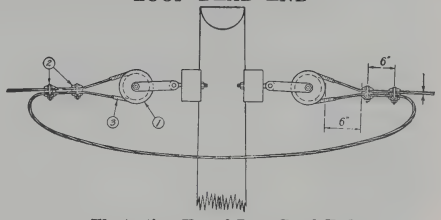


Material:
Clamps—Aluminum, strong alloy.
Bolts—Steel, galvanized.
Dimensions:
E—½ inch.
F—⅝ inch.

Cat. No.	Size A.C.S.R. Min	Size A.C.S.R. Max	Size Aluminum Cable Min.	Size Aluminum Cable Max.	Dimensions in Inches A	B	C	D	G	H	Total Wt. Lb.
402	4	1	3	1/0	6 5/8	7 5/8	5/8	1 1/2	17/32	11/16	2.09
403	2	2/0	1	3/0	7 1/2	8 13/16	3/4	1 5/8	9/16	13/16	2.60

ALUMINUM CABLE ACCESSORIES

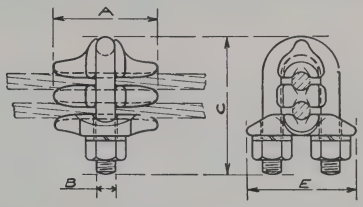
DEAD END CLAMPS FOR A.C.S.R. LOOP DEAD END



Illustrating Use of Loop Dead End
1. Bob Strain Insulator. 2. Loop Dead End Clamps.
3. Flat Armor Wire

The loop dead end is very efficient for small sizes of A.C.S.R. Two clamps must always be used with spacing approximately as indicated.

The cable should be wrapped with flat armor wire over the portion which turns about insulator.

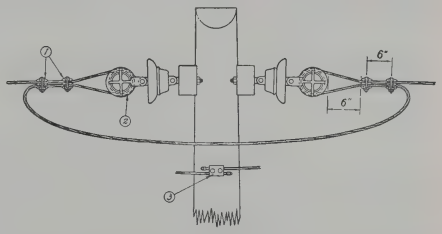


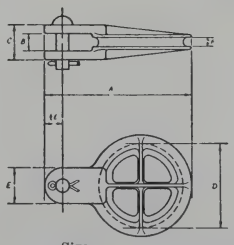
Material: Clamps—Strong alloy aluminum.
Bolts—Galvanized steel.

Loop Dead End Clamp Assembly

Cat. No.	Size A.C.S.R. Min.	Size A.C.S.R. Max.	Dimensions in Inches A	B	C	E	Total Wt. in Lbs.
411	6	4	1½	5/16	2⅛	1⅝	0.46
412	4	2	2	⅜	2¾	2⅛	0.77
413	2	2/0	2¼	½	3⅜	2½	1.42

DEAD END CLAMPS FOR A.C.S.R. THIMBLE DEAD END (FOR SMALL A.C.S.R.)





1. Loop Dead End Clamps
2. Aluminum Thimble
3. Parallel Groove Clamp

The "thimble dead end" is a convenient and efficient dead end for small sizes of A.C.S.R. It should not be used with sizes larger than No. 2 A.C.S.R.

Cat. No.	Size A.C.S.R. Min.	Size A.C.S.R. Max.	Dimensions in Inches A	B	C	D	E	F	Total Wt. Lb.
782	6	2	6⅜	¾	1½	3½	1½	⅝	0.80

Galv. Steel Pin: Length, 2 inches; diameter ⅝ inch.

NICHROME WIRE

Specific Resistance 675 Ohms per Circular Mil-foot at 68° F. (20° C.)

This alloy is practically non-corrosive, has an extremely high melting point and is far superior to nickel in its ability to withstand high temperatures. Temperature coefficient (or change of resistance with change of temperature) is small, being + .0001 per 1° F. (.00017 per 1° C.).

'Nichrome*" has a wide range of application in heating devices operating up to 900° C. (1652° F.), which includes all the cord-attached domestic appliances. It is also used in general applications such as radio rheostats and potentiometers, high resistance rheostats, industrial rheostats, dipping baskets, woven wire mesh, etc.

No. B. & S.	Diameter in Inches	Ohms per Ft. at 68° F. (20° C.)	Weight per 1000 Ft. Bare Wire Lbs.	Feet per Pound Bare Wire	Price per Pound List	Temp. 400° F. 204° C.	Carrying Capacity in Amperes of Nichrome Straight Wires Stretched Horizontally in Free Air 600 316	800 427	1000 538	1200 649	1400 760	1600 871	1800 982	2000° F. 1093° C.
000	.410	.004015	472.0	2.119	$2.28	.....	.....	.....	.....	.....	.....	.....	.....	.....
00	.365	.005067	374.1	2.673	2.28	.....	.....	.....	.....	.....	.....	.....	.....	.....
0	.325	.006391	296.6	3.372	2.28	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	.289	.008082	234.5	4.264	2.28	75-1	104.	134.	169.	210.	257.	309.	363.	417.
2	.258	.01014	186.9	5.350	2.28	62.5	88.9	113.	143.	178.	218.	261.	306.	351.
3	.229	.01287	147.3	6.789	2.28	52.7	73.9	95.0	120.	150.	182.	219.	257.	295.
4	.204	.01622	116.9	8.554	2.28	44.0	62.3	79.7	99.8	125.	154.	183.	215.	248.
5	.182	.02038	93.01	10.75	2.28	37.5	53.9	68.1	84.5	106.	129.	155.	181.	208.
6	.162	.02572	73.69	13.57	2.28	31.2	44.0	56.6	71.2	88.3	108.	130.	152.	175.
7	.144	.03255	58.23	17.17	2.28	26.3	37.0	51.2	59.7	74.0	91.7	109.	129.	147.
8	.128	.04120	46.00	21.74	2.28	21.5	30.9	39.3	50.1	62.3	75.9	91.0	107.	123.
9	.114	.05194	36.49	27.40	2.32	18.0	25.9	33.2	42.1	52.4	64.2	76.8	90.2	104.
10	.102	.06488	29.21	34.23	2.36	15.6	22.5	28.0	36.1	44.4	54.2	65.3	76.8	88.6
11	.091	.08151	23.25	43.01	2.38	13.3	18.3	23.8	30.0	37.5	45.8	55.2	64.4	74.7
12	.081	.1029	18.42	54.29	2.44	11.1	15.5	20.0	25.6	32.1	39.2	46.6	54.3	62.9
13	.072	.1302	14.56	68.68	2.48	9.37	13.1	17.0	21.6	27.0	32.9	39.4	46.1	53.3
14	.064	.1648	11.50	86.96	2.54	8.09	11.2	14.4	18.1	22.6	27.7	33.3	38.9	44.4
15	.057	.2078	9.123	109.6	2.60	6.92	9.60	12.34	15.5	19.2	23.5	28.2	32.8	37.6
16	.051	.2595	7.304	136.9	2.64	6.13	8.31	10.50	13.1	16.3	20.1	24.1	28.2	32.3
17	.045	.3333	5.686	175.9	2.72	5.31	7.18	9.13	11.3	13.9	16.9	20.3	23.6	27.0
18	.040	.4219	4.493	222.6	2.80	4.63	6.27	7.90	9.7	11.7	14.2	17.0	19.9	22.8
19	.036	.5208	3.639	274.8	2.92	4.09	5.61	6.92	8.42	10.1	12.2	14.6	17.2	19.6
20	.032	.6592	2.875	347.8	3.06	3.65	4.87	6.48	7.29	8.76	10.5	12.5	14.6	16.7
21	.0285	.8310	2.281	438.4	3.22	3.21	4.16	5.11	6.22	7.53	9.00	10.6	12.4	14.0
22	.0253	1.055	1.797	556.5	3.48	2.81	3.62	4.35	5.36	6.54	7.82	9.19	10.6	12.1
23	.0226	1.322	1.434	697.4	3.74	2.48	3.21	3.88	4.68	5.65	6.81	7.84	9.22	10.5
24	.0201	1.671	1.134	881.8	4.08	2.12	2.76	3.32	4.01	4.86	5.80	6.82	8.76	9.02
25	.0179	2.107	.8997	1,111.	4.42	1.84	2.42	2.90	3.44	4.15	4.97	5.86	6.96	7.72
26	.0159	2.670	.7099	1,413.	4.76	1.60	2.07	2.51	3.03	3.64	4.31	5.04	5.82	6.67
27	.0142	3.348	.5662	1,766.	5.10	1.38	1.77	2.16	2.64	3.16	3.76	4.39	5.07	5.72
28	.0126	4.251	.4458	2,243.	5.44	1.20	1.55	1.88	2.29	2.75	3.10	3.78	4.33	4.91
29	.0113	5.286	.3586	2,789.	5.78	1.04	1.33	1.67	2.02	2.41	2.84	3.30	3.78	4.26
30	.010	6.750	.2808	3,561.	6.12	.88	1.13	1.42	1.72	2.05	2.43	2.81	3.20	3.60
31	.0089	8.523	.2224	4,496.	6.46	.74	.98	1.25	1.52	1.78	2.09	2.41	2.74	3.06
32	.0080	10.55	.1797	5,565.	6.80	.65	.86	1.08	1.32	1.56	1.82	2.09	2.37	2.65
33	.0071	13.39	.1416	7,062.	7.30	.56	.75	.94	1.13	1.34	1.56	1.80	2.04	2.26
34	.0063	17.00	.1114	8,977.	7.98	.47	.64	.80	.97	1.12	1.36	1.55	1.73	1.91
35	.0056	21.52	.08806	11,360.	8.84	.40	.55	.69	.84	.99	1.17	1.32	1.48	1.64
36	.0050	27.00	.07020	14,250.	10.02	.36	.50	.60	.74	.85	1.01	1.12	1.23	1.43
37	.0045	33.33	.05686	17,590.	11.56	.33	.44	.55	.65	.76	.86	1.02	1.13	1.24
38	.0040	42.19	.04493	22,260.	13.42	.28	.39	.48	.58	.66	.75	.84	.94	1.05
39	.0035	55.10	.03440	29,070.	15.80	.25	.35	.41	.48	.55	.63	.72	.80	.88
40	.0031	70.24	.02698	37,060.	18.70	.23	.30	.36	.41	.48	.55	.61	.68	.76
	.00275	89.29	.02124	47,080.	22.10	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.00250	108.0	.01755	56,980.	27.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.00225	133.4	.01422	70,320.	34.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.00200	168.8	.01123	89,050.	42.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.00175	220.6	.00860	116,300.	54.40	.....	.....	.....	.....	.....	.....	.....	.....	.....
‡	.00150	300.0	.006318	158,300.	68.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.00140	344.4	.005504	181,700.	85.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.0013	399.4	.004746	210,700.	110.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.0012	468.7	.004044	247,300.	136.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.0011	557.8	.003398	294,300.	170.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
	.0010	675.0	.002808	356,100.	212.50	.....	.....	.....	.....	.....	.....	.....	.....	.....

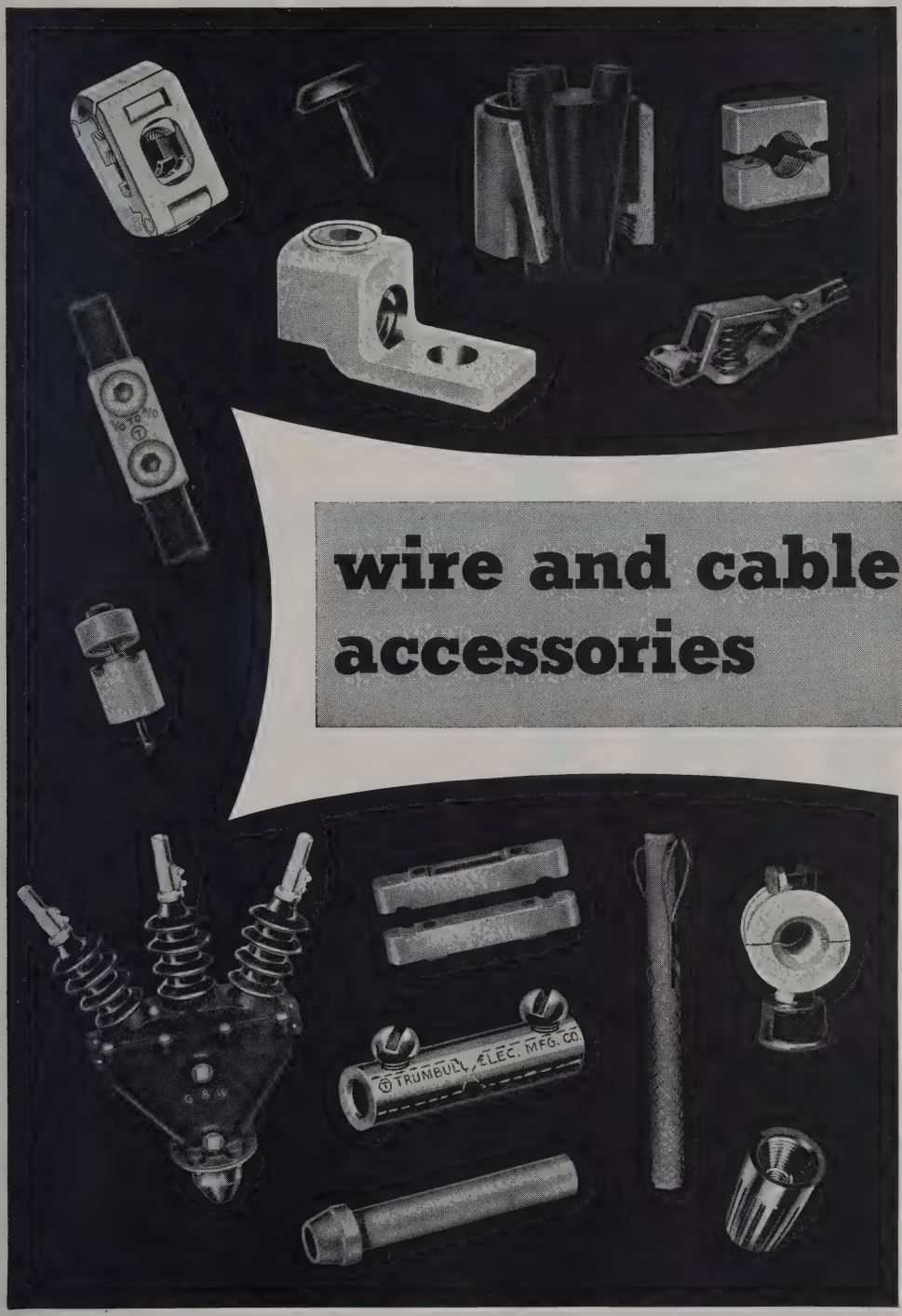
‡Do not use B.&S. gauges in this range.

*Trade Mark Reg. U. S. Pat. Off. of Alloys made only by Driver-Harris Company.

Unless otherwise specified material listed above will be supplied soft temper.

Prices on Asbestos, Cotton, Enamel, Glass, Silk and Formvar Covered Wires furnished on request.

There is also available the higher grade alloy NICHROME V for higher temperatures such as Electric Furnaces, Electric Ranges and temperatures above 1700° F.

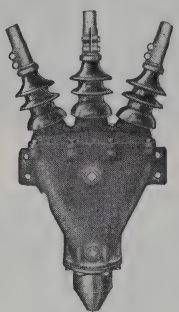

wire and cable
accessories
TRUMBULL ELEC. MFG. CO.

G & W POTHEADS

The design of G & W Potheads from both the electrical and mechanical standpoint is the result of many years' experience. Having such a variety of shapes and sizes we can furnish you with potheads for any special condition. Any special shape of pothead casting is adapted to standard cable entrances and porcelain. Simplicity and ease of installation are important features of these designs. We are always glad to supply you with detailed information on design or installation.

TYPE "T" CAPNUT TERMINAL
Definite Oil-Tight Construction
Interchangeable Style of Lugs

7500 Volt CR & SB Cable Entrance

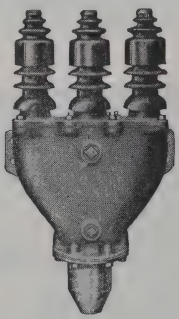


Shape "B"

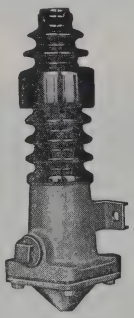
25000 Volt

TYPE "ES" DISCONNECTING
With Porcelain Caps Enclosing Connectors

7500 Volt

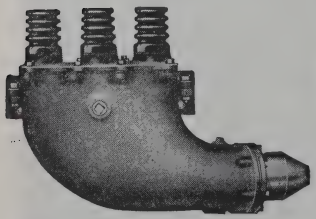


Shape "C"

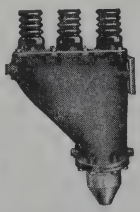


5000 Volt

TYPE "N" INDOOR ONLY
Without Connectors



Shape "K"—Mounted Right or Left



Shape "W"

Other miscellaneous types are assembled from standard parts, for any voltage or ampere rating.

G & W POTHEADS
INSTRUCTIONS FOR ORDERING

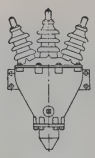
Give following information:

1. Mfrs. Catalog No. if possible.
2. Number of Conductors.
3. Operating Voltage. (Alternating or Direct.)
5. Outside Diameter of Cable.
6. Shape of Pothead.
7. Outdoor or Indoor use.
8. Type of Connector.
9. Type of Cable Entrance.
10. Size of Conduit Coupling.
11. Diameter over Armor. (If Clamp is wanted.)

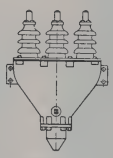
Items listed in heavy type are essential.
Give all information available.
Filling Compound is furnished as a separate item on orders.

Cable Entrances (Wiping Sleeve, Combination CR & SB or Plain Bushings) are included in price. Conduit and Couplings and Armor Clamps are priced extra.

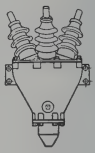
POTHEAD SHAPES



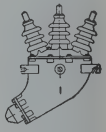
Shape B



Shape C

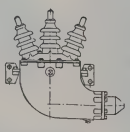


Shape D

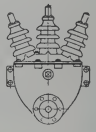


Shape BY

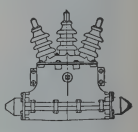
Shape BW



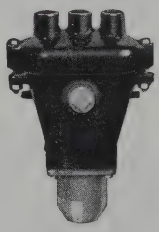
Shape BK



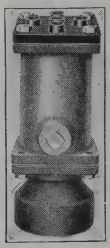
Shape BU



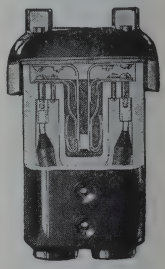
Shape BT



TYPE "P" SHAPE "C" 6600 Volts Indoor Porcelain Lid



TYPE "B" Control Cable (600-volt) Pothead



G & W Series Cutout for Street Lighting Cables

G & W Cable Support, with copper braid. No crushing of cables. No wear on lead sheath.

G & W Conduit Bell. For closing top of conduit and supporting cables.

G & W TYPE "D" Tee Splice Box. Also furnished in straight and cross (4 - way) shapes.

G & W POTHEADS

TYPE "T" OUTDOOR
TYPE "NT" INDOOR
THREE CONDUCTOR
SHAPE "B"

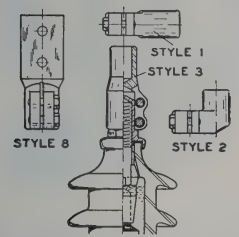


Fig. TL—Prices include solder connectors and above styles of aerial lugs. Specify style of lug wanted.

CAPNUT HERMETICALLY SEALS TOP OF PORCELAIN • INTERCHANGEABLE AERIAL LUGS

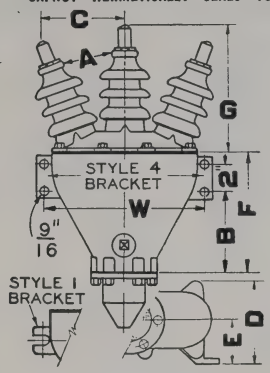
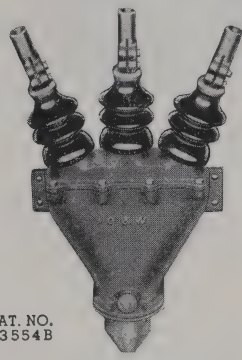


Fig. T3B—DIMENSIONS



CAT. NO.
T3554B

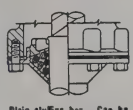
Typical of potheads listed on this page except that corrugated porcelains are used on Type "NT" and lower voltages Type "T."

Max. Cond'r Size Mcm §	Max. Diam. Cable Inches	Type "T" **Outdoor** CATALOG NUMBER	LIST PRICE	Type "NT" **Indoor** CATALOG NUMBER	LIST PRICE	Parts Symbols Body	Lid	Porcelain* "T"	"NT"	W	B	D	E	F	G	A	C	Approx. Ship'g Weight Lb.	Approx Comp'd Req'd Gal.
600 VOLTS OUTDOOR (Flashover 40Kv. dry, 25Kv. wet) and **2500 VOLTS INDOOR** (Flashover 40 Kv. dry)																			
1/0	1¾	T3203B		NT3303B		F3C†	CF3B	CK	CK	9	4½	5½	3	6½	6⅛	2	4⅛	30	¾
250	2⅛	T3224B		NT3324B		F4C†	CF3B	CK	CK	9	6½	5¾	3	8½	6½	2	4¼	39	1
500	2⅞	T3254B		NT3354B		E4C‡	DE3BX	DA	DA	11¼	4½	7¼	3¾	8	7¼	2¼	5	53	1½
570	3½	T3275B		NT3375B		E5C‡	DE3BX	DB	DB	11¼	6	7⅜	3¾	9½	7⅝	1¾	5⅛	62	1¾
1000	3½	T3285B		NT3385B		E5C‡	DE3BX	DB	DB	11¼	6	7⅜	3¾	9½	8¼	1¾	5⅜	69	1¾
2500 VOLTS OUTDOOR (Flashover 50Kv. dry, 30Kv. wet) and **5000 VOLTS INDOOR** (Flashover 50Kv. dry)																			
1/0	1¾	T3303B		NT3403B		F3C†	CF3B	CL	CL	9	4½	5½	3	6½	7⅛	2⅜	4½	31	¾
250	2⅛	T3324B		NT3424B		F4C†	CF3B	CL	CL	9	6½	5¾	3	8½	7½	2⅜	4⅝	40	1
500	2⅞	T3354B		NT3454B		E4C‡	DE3BX	DN	DN	11¼	4½	7¼	3¾	8	8¾	2⅝	5⅜	55	1½
750	3½	T3375B		NT3475B		E5C‡	DE3BX	DP	DP	11¼	6	7⅜	3¾	9½	9⅛	2¼	5⅝	64	1¾
1000	3½	T3385B		NT3485B		E5C‡	DE3BX	DP	DP	11¼	6	7⅜	3¾	9½	9¾	2¼	5⅞	71	1¾
5000 VOLTS OUTDOOR (Flashover 60Kv. dry, 42Kv. wet) and **7500 VOLTS INDOOR** (Flashover 60Kv. dry)																			
1/0	1¾	T3403B		NT3503B		F3C†	CF3B	CB	CB	9	4½	5½	3	6½	8⅜	2¾	5	33	¾
250	2⅛	T3424B		NT3524B		F4C†	CF3B	CB	CB	9	6½	5¾	3	8½	8¾	2¾	5⅛	42	1
500	2⅞	T3454B		NT3554B		H4C†	DH3B1X	DD	DD	13	7	6¾	3½	10½	10¾	5¼	8½	66	1¾
750	3½	T3475B		NT3575B		J5C‡	EJ3B2X	EC	EC	15½	8	7⅜	3¾	11½	11½	6⅛	9⅞	90	3½
1000	3½	T3485B		NT3585B		J5C‡	EJ3B2X	EC	EC	15½	8	7⅜	3¾	11½	12⅛	6⅛	10¼	97	3½
7500 VOLTS OUTDOOR (Flashover 70Kv. dry, 52Kv. wet) and **15000 VOLTS INDOOR▲** (Flashover 70Kv. dry)																			
1/0	2⅛	T3504B		HNT3704B		H4C†	DH3B1	DC	DC	13	7	6¾	3½	10½	10⅜	5½	8	61	1¾
250	2⅞	T3524B		HNT3724B		H4C†	DH3B1	DC	DC	13	7	6¾	3½	10½	10¾	5½	8⅛	64	1¾
500	2⅞	T3554B		.....	.....	H4C†	DH3B1X	DC	....	13	7	6¾	3½	10½	11¼	5½	8¼	68	1¾
750	3½	T3575B		.....	.....	J5C‡	EJ3B2X	EB	....	15½	8	7⅜	3¾	11½	11½	6⅛	9⅞	93	3½
1000	3½	T3585B		.....	.....	J5C‡	EJ3B2X	EB	....	15½	8	7⅜	3¾	11½	12⅛	6¼	10¼	100	3½
15000 VOLTS OUTDOOR▲ (Flashover 90Kv. dry, 65Kv. wet) and **15000 VOLTS INDOOR** (Flashover 80Kv. dry)																			
1/0	2⅞	JT3704B		NT3704B		J4C‡	EJ3B2	EE	EF	15½	6½	7¼	3¾	10	12⅝	7¾	10½	83	3
250	2⅞	JT3724B		NT3724B		J4C‡	EJ3B2	EE	EF	15½	6½	7¼	3¾	10	13	7¾	10¾	86	3
500	3½	JT3755B		NT3755B		J5C‡	EJ3B2X	EE	EF	15½	8	7⅜	3¾	11½	13½	7¾	11	95	3½
750	3½	JT3775B		NT3775B		J5C‡	EJ3B2X	EG	EH	15½	8	7⅜	3¾	11½	13⅞	7⅜	11⅛	100	3½
1000	3½	JT3785B		NT3785B		J5C‡	EJ3B2X	EG	EH	15½	8	7⅜	3¾	11½	14½	7⅜	11⅜	107	3½
15000 VOLTS OUTDOOR (Flashover 90Kv. dry, 65Kv. wet)—Large Body																			
1/0	3½	T3705B		.....	.....	K5C‡	EK3B1	EE	....	21	11	7⅜	3¾	15	14⅜	10⅜	13	136	5½
250	3½	T3725B		.....	.....	K5C‡	EK3B1	EE	....	21	11	7⅜	3¾	15	14¾	10⅜	13¼	139	5½
500	3½	T3755B		.....	.....	K5C‡	EK3B1X	EE	....	21	11	7⅜	3¾	15	15¼	10⅜	13½	130	5½
750	3½	T3775B		.....	.....	K5C‡	EK3B1X	EG	....	21	11	7⅜	3¾	15	15⅝	10	13⅝	132	5½
1000	3½	T3785B		.....	.....	K5C‡	EK3B1X	EG	....	21	11	7⅜	3¾	15	16¼	10	13⅞	139	5½
23000 VOLTS OUTDOOR (Flashover 110Kv. dry, 80Kv. wet) and **23000 VOLTS INDOOR** (Flashover 100Kv. dry)																			
1/0	3½	T3805B		NT3805B		K5C‡	EK3B1	EK	EL	21	11	7⅜	3¾	15	17	11½	14¼	147	5½
250	3½	T3825B		NT3825B		K5C‡	EK3B1	EK	EL	21	11	7⅜	3¾	15	17⅜	11½	14⅜	150	5½
500	3½	T3855B		NT3855B		K5C‡	EK3B1X	EK	EL	21	11	7⅜	3¾	15	17⅞	11½	14⅝	140	5½

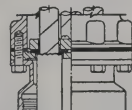
†Style 1 brackets. ‡Style 4 brackets. §Wiping sleeve takes ½" larger diameter cable. *Also current rating, one ampere per 1,000 cm.
Filling compound not included in above prices.
Conduit couplings and armor clamps extra list—
When potheads are wanted for INVERTED use, so specify. For "VT" porcelain with inverted petticoats, add 5% and use prefix "V" in outdoor pothead catalog number.
PRICES INCLUDE CABLE ENTRANCE FITTINGS IN STANDARD STYLES SHOWN BELOW. SPECIFY STYLE WANTED. BE SURE TO GIVE CABLE DATA AND CONDUIT SIZE.

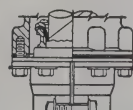
Wiping Sleeve—"WS"

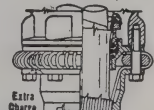
Clamp ring and stuffing box. Invert when used with CC.
Symbol—"CR-SB"


Plain stuffing box. Can be drilled on job to cable size. Uses cord packing.
Symbol—"SB"

Stuffing box with Resistoyl rubber sealing bushing
Symbol—"RB"


"PB" & conduit coupling "CC"


"CR-SB" & armor clamp "AC"



Wire armor clamp—"WAC"

Prices on request.

G & W POTHEADS

TYPE "T" OUTDOOR
TYPE "NT" INDOOR
THREE CONDUCTOR
SHAPE "BK"

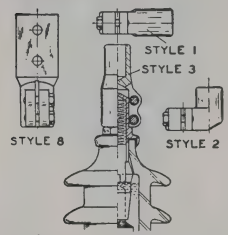


Fig. TL—Prices include solder connectors and above styles of aerial lugs. Specify style of lug wanted.

CAPNUT HERMETICALLY SEALS TOP OF PORCELAIN • INTERCHANGEABLE AERIAL LUGS

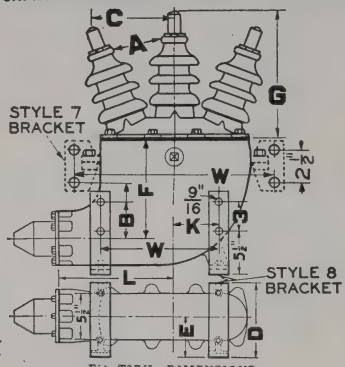
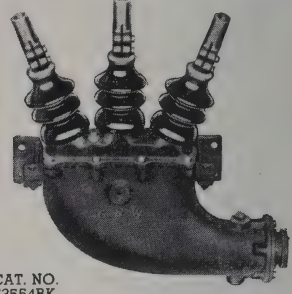


Fig. T3BK—DIMENSIONS



CAT. NO. T3554BK

Universal brackets for right or left hand mounting. Style 7 brackets shown for F4K, E5K & H4K bodies. Style 8 brackets used for J5K & K5K bodies. Dimension "K" is 4" for J5K and 3" for K5K body.

Max. Cond'r Size Mcm *	Max. Diam. Cable Inches §	Type "T" **Outdoor** CATALOG NUMBER	LIST PRICE	Type "NT" **Indoor** CATALOG NUMBER	LIST PRICE	Parts Symbols Body	Lid	Porcelain* "T"	"NT"	Dimensions—Inches W	B	D	E	L	F	G	A	C	Approx. Ship'g Weight Lb.	Approx. Comp'd Req'd Gal.
600 VOLTS OUTDOOR (Flashover 40Kv. dry, 25Kv. wet) and **2500 VOLTS INDOOR** (Flashover 40Kv. dry)																				
1/0	2⅞	T3204BK		NT3304BK		F4K†	CF3B	CK	CK	12¾	3½	6⅝	3¾	8	6¾	6⅛	2	4⅛	45	1½
250	2⅞	T3224BK		NT3324BK		F4K†	CF3B	CK	CK	12¾	3½	6⅝	3¾	8	6¾	6½	2	4⅛	47	1½
500	3½	T3255BK		NT3355BK		E5K†	DE3BX	DA	DA	14¾	3⅝	7⅜	3¾	10	7½	7¼	2¼	5	74	2½
750	3½	T3275BK		NT3375BK		E5K†	DE3BX	DB	DB	14¾	3⅝	7⅜	3¾	10	7½	7⅝	1¾	5⅛	79	2½
1000	3½	T3285BK		NT3385BK		E5K†	DE3BX	DB	DB	14¾	3⅝	7⅜	3¾	10	7½	8¼	1¾	5⅜	86	2½
2500 VOLTS OUTDOOR (Flashover 50Kv. dry, 30Kv. wet) and **5000 VOLTS INDOOR** (Flashover 50Kv. dry)																				
1/0	2⅞	T3304BK		NT3404BK		F4K†	CF3B	CL	CL	12¾	3½	6⅝	3¾	8	6¾	7⅛	2⅜	4½	46	1½
250	2⅞	T3324BK		NT3424BK		F4K†	CF3B	CL	CL	12¾	3½	6⅝	3¾	8	6¾	7½	2⅜	4⅝	48	1½
500	3½	T3355BK		NT3455BK		E5K†	DE3BX	DN	DN	14¾	3⅝	7⅜	3¾	10	7½	8¾	2⅝	5⅜	76	2½
750	3½	T3375BK		NT3475BK		E5K†	DE3BX	DP	DP	14¾	3⅝	7⅜	3¾	10	7½	9⅛	2¼	5⅝	81	2½
1000	3½	T3385BK		NT3485BK		E5K†	DE3BX	DP	DP	14¾	3⅝	7⅜	3¾	10	7½	9¾	2¼	5⅞	88	2½
5000 VOLTS OUTDOOR (Flashover 60Kv. dry, 42Kv. wet) and **7500 VOLTS INDOOR** (Flashover 60Kv. dry)																				
1/0	2⅞	T3404BK		NT3504BK		F4K†	CF3B	CB	CB	12¾	3½	6⅝	3¾	8	6¾	8⅜	2¾	5	48	1½
250	2⅞	T3424BK		NT3524BK		F4K†	CF3B	CB	CB	12¾	3½	6⅝	3¾	8	6¾	8¾	2¾	5⅛	50	1½
500	2⅞	T3454BK		NT3554BK		H4K†	DH3B1X	DD	DD	16	5¼	6½	3¾	12	8½	10⅜	3¼	8⅛	77	2½
750	3½	T3475BK		NT3575BK		J5K†	EJ3B2X	EC	EC	10	3¼	7⅞	4¼	15	11	11½	6⅛	9⅞	123	5
1000	3½	T3485BK		NT3585BK		J5K†	EJ3B2X	EC	EC	10	3¼	7⅞	4¼	15	11	12⅛	6⅛	10¼	128	5
7500 VOLTS OUTDOOR (Flashover 70Kv. dry, 52Kv. wet) and **15000 VOLTS OUTDOOR▲** (Flashover 70Kv. dry)																				
1/0	2⅞	T3504BK		NT3704BK		H4K†	DH3B1	DC	DC	16	5¼	6½	3¾	12	8½	10⅜	5½	8	73	2½
250	2⅞	T3524BK		NT3724BK		H4K†	DH3B1	DC	DC	16	5¼	6½	3¾	12	8½	10¾	5½	8⅛	76	2½
500	2⅞	T3554BK		.....	.....	H4K†	DH3B1X	DC	....	16	5¼	6½	3¾	12	8½	11¼	5½	8¼	78	2½
750	3½	T3575BK		.....	.....	J5K†	EJ3B2X	EB	....	10	3¼	7⅞	4¼	15	11	11½	6⅛	9⅞	125	5
1000	3½	T3585BK		.....	.....	J5K†	EJ3B2X	EB	....	10	3¼	7⅞	4¼	15	11	12⅛	6⅛	10¼	131	5
15000 VOLTS OUTDOOR▲ (Flashover 90Kv. dry, 65Kv. wet) and **15000 VOLTS INDOOR** (Flashover 80Kv. dry)																				
1/0	3½	JT3705BK		NT3705BK		J5K‡	EJ3B2	EE	EF	10	3¼	7⅞	4¼	15	11	12⅝	7¾	10½	125	5
250	3½	JT3725BK		NT3725BK		J5K‡	EJ3B2	EE	EF	10	3¼	7⅞	4¼	15	11	13	7¾	10¾	128	5
500	3½	JT3755BK		NT3755BK		J5K‡	EJ3B2X	EE	EF	10	3¼	7⅞	4¼	15	11	13½	7¾	11	126	5
750	3½	JT3775BK		NT3775BK		J5K‡	EJ3B2X	EG	EH	10	3¼	7⅞	4¼	15	11	13⅞	7⅞	11⅛	131	5
1000	3½	JT3785BK		NT3785BK		J5K‡	EJ3B2X	EG	EH	10	3¼	7⅞	4¼	15	11	14½	7⅞	11⅜	137	5
15000 VOLTS OUTDOOR (Flashover 90Kv. dry, 65Kv. wet) Large Body.																				
1/0	3½	T3705BK		.....	.....	K5K‡	EK3B1	EE	....	12	3¾	7½	4¼	18	13½	14⅜	10⅜	13	179	6½
250	3½	T3725BK		.....	.....	K5K‡	EK3B1	EE	....	12	3¾	7½	4¼	18	13½	14¾	10⅝	13¼	181	6½
500	3½	T3755BK		.....	.....	K5K‡	EK3B1X	EE	....	12	3¾	7½	4¼	18	13½	15¼	10⅜	13½	170	6½
750	3½	T3775BK		.....	.....	K5K‡	EK3B1X	EG	....	12	3¾	7½	4¼	18	13½	15⅜	10	13⅜	173	6½
1000	3½	T3785BK		.....	.....	K5K‡	EK3B1X	EG	....	12	3¾	7⅞	4¼	18	13½	16¼	10	13⅞	181	6½
23000 VOLTS OUTDOOR (Flashover 110Kv. dry, 80Kv. wet) and **23000 VOLTS INDOOR** (Flashover 100Kv. dry)																				
1/0	3½	T3805BK		NT3805BK		K5K‡	EK3B1	EK	EL	12	3¾	7½	4¼	18	13½	17	11½	14¼	188	6½
250	3½	T3825BK		NT3825BK		K5K‡	EK3B1	EK	EL	12	3¾	7½	4¼	18	13½	17¾	11½	14⅜	190	6½
500	3½	T3855BK		NT3855BK		K5K‡	EK3B1X	EK	EL	12	3¾	7⅞	4¼	18	13½	17⅜	11½	14⅝	180	6½

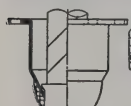
†Style 7 brackets. ‡Style 8 brackets. §Wiping sleeve takes ½" larger diameter cable. *Also current rating, one ampere per 1,000 cm.

Filling compound not included in above prices.

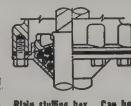
Conduit couplings and armor clamps extra list—

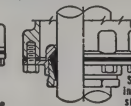
When potheads are wanted for INVERTED use, so specify. For "VT" porcelain with inverted petticoats, add 5% and use prefix "V" in outdoor pothead catalog numeer.

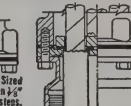
PRICES INCLUDE CABLE ENTRANCE FITTINGS IN STANDARD STYLES SHOWN BELOW. SPECIFY STYLE WANTED. BE SURE TO GIVE CABLE DATA AND CONDUIT SIZE.

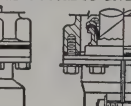

Wiping Sleeve—"WS"

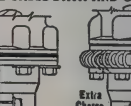
Clamp ring and stuffing box. Invert when used with CC. Symbol—"CR-SB"


Plain stuffing box. Can be drilled on job to cable size. Uses cord packing. Symbol—"SB"


Sized in ½" steps.
Stuffing box with Resistoyl rubber sealing bushing. Symbol—"RB"

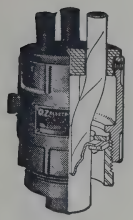

"PB" & conduit coupling "CC"


"CR-SB" & armor clamp "AC"


Extra Charge "AC"+ 25%
Wire armor clamp—"WAC"

Prices on request.

O. Z. CABLE TERMINATORS
FOR LEAD COVERED CABLES



Type "CLC"

This fitting seals the cable and grounds the lead sheath. The body of the fitting screws directly on the conduit, clamping the lead sheath to a bronze belling ring, which has been previously set into the end of the conduit.

Type "CLN" is provided with conduit threads in the top of body for the extension of conduit or greenfield connector.

Use with a multiple or a single conductor cable.

Type "CLC" With Cover

Size In.	Max. Dia. of Cable Permitted Inches	Cat. No.	Price Each	Diam. Inches	Over-all Height	Approx. Compound Required Pints
½	.46	CLC 50	$4.50	1½	2⅝	1/20
¾	.61	CLC 75	4.50	1½	2⅝	1/20
1	.78	CLC100	5.15	1⅞	3	⅛
1¼	1.02	CLC125	5.90	2¼	3⅛	⅛
1½	1.20	CLC150	6.80	2⅜	3¼	⅛
2	1.53	CLC200	8.15	3	3¾	¼
2½	1.83	CLC250	9.80	3½	4¼	½
3	2.28	CLC300	11.80	4¼	4¾	¾
3½	2.70	CLC350	14.25	4¾	5⅛	1
4	3.00	CLC400	17.45	5⅜	5⅞	1½
4½	3.35	CLC450	21.00	5⅞	6⅛	2
5	3.75	CLC500	25.10	6½	6½	2¾
6	4.50	CLC600	33.85	7⅝	6⅞	4

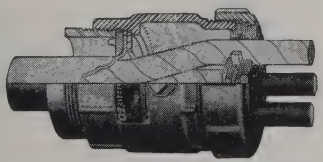
Type "CLN" Without Cover

½	.46	CLN 50	3.65	1½	2½	1/20
¾	.61	CLN 75	3.65	1½	2½	1/20
1	.78	CLN100	4.15	1⅞	2⅞	⅛
1¼	1.02	CLN125	4.70	2¼	2⅞	⅛
1½	1.20	CLN150	5.45	2⅜	3	⅛
2	1.53	CLN200	6.45	3	3½	¼
2½	1.83	CLN250	7.70	3½	3⅞	½
3	2.28	CLN300	9.25	4¼	4⅜	¾
3½	2.70	CLN350	11.30	4¾	4¾	1
4	3.00	CLN400	13.65	5⅜	5½	1½
4½	3.35	CLN450	16.35	5⅞	5¾	2
5	3.75	CLN500	19.40	6⅛	6	2¾
6	4.50	CLN600	26.50	7⅝	6½	4

Bracket types are available for Exposed Cables. Also a complete line of fittings with Taping Cones are available.

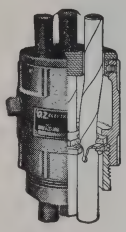
TYPE "CLH" HORIZONTAL TERMINATORS

For Lead Covered Cables



Size In.	Max. Dia. Cable Permitted Inches	Cat. No.	Price Each	Compound Required Pints
1	.78	CLH100	$7.50	⅛
1¼	1.02	CLH125	8.75	⅛
1½	1.20	CLH150	10.55	⅛
2	1.53	CLH200	12.65	¼
2½	1.83	CLH250	15.45	½
3	2.28	CLH300	18.55	¾
3½	2.70	CLH350	22.70	1
4	3.00	CLH400	27.30	1½
4½	3.35	CLH450	32.60	2
5	3.75	CLH500	41.25	2½
6	4.50	CLH600	54.95	4

O. Z. CABLE TERMINATORS
FOR LEAD COVERED CABLES



Type "CUC"

Use with two or more single conductor cables. For A.C. or D.C. Type "CUC" is used where the wires installed in a conduit are small enough to allow enough space for belling purposes in a pothead the same size as the conduit. Type "CAC" is used where larger wires are installed in the same size conduit according to standard code requirements. Types "CUN" and "CAN" are same as above, except conduit threads are provided in the top for the extension of conduit or greenfield connector.

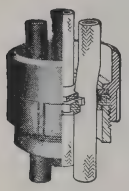
Types "CUC" and "CAC"—With Cover

Size In.	Maximum Diam. of Wire Permitted—Inches 2 Wires	3 Wires	4 Wires	Cat. No.	Price Each	Approx. Compound Required Pints
¾	.24	------	------	CUC 75	$4.65	1/20
¾	.32	.27	------	CAC 75	6.70	⅛
1	.32	.27	------	CUC100	5.40	⅛
1	.38	.32	.32	CAC100	7.80	⅛
1¼	.38	.32	.32	CUC125	6.25	⅛
1¼	.58	.38	.35	CAC125	9.05	⅛
1½	.58	.38	.35	CUC150	7.20	⅛
1½	.64	.58	.52	CAC150	10.85	¼
2	.64	.58	.52	CUC200	8.65	¼
2	.78	.73	.64	CAC200	13.10	½
2½	.78	.73	.64	CUC250	10.40	½
2½	.95	.84	.78	CAC250	15.85	¾
3	1.00	.90	.78	CUC300	12.55	¾
3	1.19	1.10	.95	CAC300	19.20	1
3½	1.19	1.10	.95	CUC350	15.15	1
3½	1.33	1.19	1.10	CAC350	23.45	1½
4	1.35	1.22	1.10	CUC400	18.55	1½
4	1.53	1.43	1.19	CAC400	28.10	2
4½	1.55	1.43	1.22	CUC450	22.25	2
4½	1.68	1.59	1.33	CAC450	33.40	2¾
5	1.68	1.59	1.33	CUC500	26.55	2¾
5	1.91	1.79	1.53	CAC500	43.60	4
6	1.91	1.79	1.53	CUC600	35.65	4

Types "CUN" and "CAN"—Without Cover

¾	.24	------	------	CUN 75	3.80	1/20
¾	.32	.27	------	CAN 75	5.70	⅛
1	.32	.27	------	CUN100	4.40	⅛
1	.38	.32	.32	CAN100	6.60	⅛
1¼	.38	.32	.32	CUN125	5.05	⅛
1¼	.58	.38	.35	CAN125	7.70	⅛
1½	.58	.38	.35	CUN150	5.85	⅛
1½	.64	.58	.52	CAN150	9.15	¼
2	.64	.58	.52	CUN200	6.95	¼
2	.78	.73	.64	CAN200	11.00	½
2½	.78	.73	.64	CUN250	8.30	½
2½	.95	.84	.78	CAN250	13.30	¾
3	1.00	.90	.78	CUN300	10.00	¾
3	1.19	1.10	.95	CAN300	16.25	1
3½	1.19	1.10	.95	CUN350	12.20	1
3½	1.33	1.19	1.10	CAN350	19.65	1½
4	1.35	1.22	1.10	CUN400	14.75	1½
4	1.53	1.43	1.19	CAN400	23.45	2
4½	1.55	1.43	1.22	CUN450	17.60	2
4½	1.68	1.59	1.33	CAN450	27.70	2¾
5	1.68	1.59	1.33	CUN500	20.85	2¾
5	1.91	1.79	1.53	CAN500	36.25	4
6	1.91	1.79	1.53	CUN600	28.30	4

O. Z. COMPOUND BUSHINGS


Type "FR"

TYPE "FR" FOR RUBBER COVERED AND OTHER BRAIDED CABLES

Use with one or more cables A.C. or D.C.

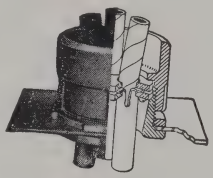
Also available for lead covered cables. Prices on request.

Size In.	Maximum Diameter of Wire Permitted—Inches 1 Wire	2 Wires	3 Wires	4 Wires	Cat. No.	Price Each
¾	.61	.31	.28	.25	FR 75	$2.20
1	.78	.38	.33	.31	FR100	2.65
1¼	1.02	.51	.51	.42	FR125	3.25
1½	1.20	.63	.59	.51	FR150	3.95
2	1.53	.78	.78	.63	FR200	5.00
2½	1.83	.97	.92	.78	FR250	6.20
3	2.28	1.21	1.10	.92	FR300	7.65
3½	2.70	1.41	1.32	1.10	FR350	9.30
4	3.00	1.55	1.47	1.24	FR400	11.30
4½	3.35	1.76	1.64	1.41	FR450	13.50
5	3.75	1.98	1.88	1.47	FR500	15.90

TYPE "HUE" FOR LEAD COVERED CABLES EXPOSED ENTERING CABINETS

Use with two or more single conductor cables. Furnished complete with locknut.

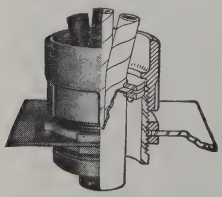
Types for Rubber Covered and Braided Cables available. Prices on request.


Type "HUE"

Maximum Diameter of Wire Permitted—Inches 2 Wires	3 Wires	4 Wires	Knockout Size	Cat. No.	Price Each
.32	.27	....	1	HUE100	$3.50
.38	.32	.32	1¼	HUE125	4.30
.58	.38	.35	1½	HUE150	5.25
.64	.58	.52	2	HUE200	6.55
.78	.73	.64	2½	HUE250	8.15
1.00	.90	.78	3	HUE300	10.05
1.19	1.10	.95	3½	HUE350	12.35
1.35	1.22	1.10	4	HUE400	15.05
1.55	1.43	1.22	4½	HUE450	18.65
1.68	1.59	1.33	5	HUE500	22.15

TYPE "HLK" FOR LEAD COVERED CABLES IN CONDUITS ENTERING CABINETS

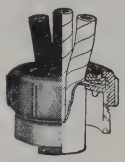
Use with a multiple or a single conductor cable. Furnished complete with locknuts.


Type "HLK"

Size In.	Max. Diam. Cable Inches	Cat. No.	Price Each
¾	.61	HLK75	$1.80
1	.78	HLK100	2.20
1¼	1.02	HLK125	2.65
1½	1.20	HLK150	3.30
2	1.53	HLK200	4.10
2½	1.83	HLK250	5.35
3	2.28	HLK300	6.80
3½	2.70	HLK350	8.65
4	3.00	HLK400	10.55
4½	3.35	HLK450	14.10
5	3.75	HLK500	16.85

O. Z. SEALING BUSHINGS

TYPE "KL" FOR LEAD COVERED CABLES

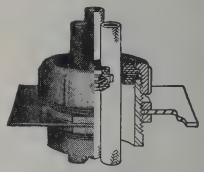

Type "KL"

Size In.	Max. Diam. Cable, Inches	Cat. No.	Price Each
¾	.61	KL 75	$1.45
1	.78	KL100	1.80
1¼	1.02	KL125	2.20
1½	1.20	KL150	2.70
2	1.53	KL200	3.40
2½	1.83	KL250	4.30
3	2.28	KL300	5.55
3½	2.70	KL350	6.95
4	3.00	KL400	8.65
4½	3.35	KL450	10.60
5	3.75	KL500	12.80

FOR RUBBER COVERED AND OTHER BRAIDED CABLES IN CONDUITS ENTERING CABINETS

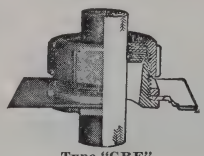
Use with one or more cables. Furnished complete with locknuts.

Also available for Lead Covered Cables. Prices on request.


Type "GRK"

Size In.	Maximum Diameter of Wire Permitted—Inches 1 Wire	2 Wires	3 Wires	4 Wires	Cat. No.	Price Each
¾	.61	.31	.28	.25	GRK 75	$1.90
1	.78	.38	.33	.31	GRK100	2.40
1¼	1.02	.51	.51	.42	GRK125	2.85
1½	1.20	.63	.59	.51	GRK150	3.65
2	1.53	.78	.78	.63	GRK200	4.50
2½	1.83	.97	.92	.78	GRK250	5.95
3	2.28	1.21	1.10	.92	GRK300	7.65
3½	2.70	1.41	1.32	1.10	GRK350	9.75
4	3.00	1.55	1.47	1.24	GRK400	11.95
4½	3.35	1.76	1.64	1.41	GRK450	15.85
5	3.75	1.98	1.88	1.47	GRK500	19.00

FOR RUBBER COVERED AND OTHER BRAIDED CABLES EXPOSED ENTERING CABINETS


Type "GRE"

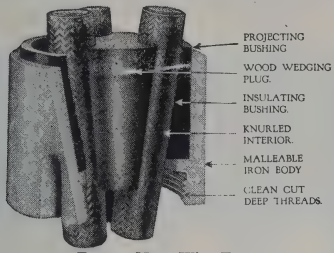
Use with one or more cables. Furnished complete with locknuts.

Also available for Lead Covered Cables. Prices on request.

Maximum Diameter of Wire Permitted—Inches 1 Wire	2 Wires	3 Wires	4 Wires	Knockout Size	Cat. No.	Price Each
.78	.38	.33	.31	1	GRE100	$3.45
1.02	.51	.51	.42	1¼	GRE125	4.15
1.20	.63	.59	.51	1½	GRE150	5.20
1.53	.78	.78	.63	2	GRE200	6.45
1.83	.97	.92	.78	2½	GRE250	8.15
2.28	1.21	1.10	.92	3	GRE300	10.15
2.70	1.41	1.32	1.10	3½	GRE350	12.55
3.00	1.55	1.47	1.24	4	GRE400	15.35
3.35	1.76	1.64	1.41	4½	GRE450	19.15
3.75	1.98	1.88	1.47	5	GRE500	22.85

O.Z. CABLE SUPPORTS

TYPE "S"—FOR TWO OR MORE WIRES



Two or More Wire Type

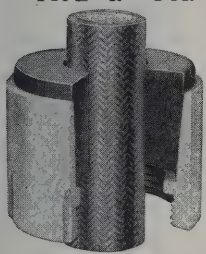
For supporting electric cables in vertical conduit risers. Use with Standard Rubber, Synthetic, Plastic, Varnished Cambric or Lead Covered Cables.

For soft synthetic rubber covered cables use Type "R" listed below.

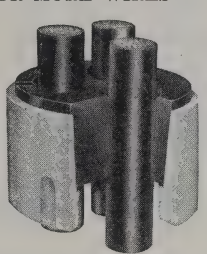
Conduit Size	Cat. No.	Body Only	2 to 4 Same Size Wires Plug Only	2 to 4 Same Size Wires Complete	Diff. Size Wires or 5 or More Plug Only	Diff. Size Wires or 5 or More Complete	Approx. Wt. Lbs.
½	S500	$ 2.10	$0.50	$ 2.60	$0.95	$3.05	.25
¾	S750	2.10	.50	2.60	.95	3.05	.33
1	S1000	2.35	.70	3.05	1.30	3.65	.50
1¼	S1250	2.45	.70	3.15	1.30	3.75	.75
1½	S1500	2.95	.85	3.80	1.55	4.50	.88
2	S2000	4.70	.95	5.65	1.70	6.40	1.5
2½	S2500	5.30	1.05	6.35	1.85	7.15	2.5
3	S3000	6.95	1.40	8.35	2.30	9.25	4.0
3½	S3500	9.55	1.75	11.30	2.65	12.20	5.3
4	S4000	11.45	2.60	14.05	3.50	14.95	6.5
4½	S4500	16.90	3.90	20.80	4.80	21.70	8.7
5	S5000	20.80	5.20	26.00	6.10	26.90	13.3
6	S6000	34.65	8.65	43.30	9.55	44.20	19.0

Finish cadmium plated. For hot-dip galvanized add 25% to list price. Can be supplied for Thin Wall Conduit (E.M.T.) and Fibre Conduit on request at additional charge.

TYPE "R"—FOR ONE OR MORE WIRES



For One Wire



For Two or More Wires

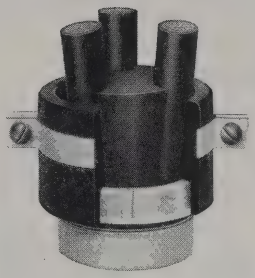
Recommended for supporting soft Synthetic Rubber Covered Cables. One wire support takes all types of cables.

Conduit Size	Cat. No.	Body Only	One Wire Plug Only	One Wire Complete	2 to 4 Same Size Wires Plug Only	2 to 4 Same Size Wires Complete	Diff. Size or 5 or More Wires Plug Only	Diff. Size or 5 or More Wires Complete	Approx. Wt. Lbs.
½	R501	$1.55	$1.05	$2.60	$1.90	$3.45	$2.35	$3.90	.25
¾	R751	1.55	1.05	2.60	1.90	3.45	2.35	3.90	.38
1	R1001	1.65	1.40	3.05	2.50	4.15	3.10	4.75	.63
1¼	R1251	1.75	1.40	3.15	2.50	4.25	3.10	4.85	.75
1½	R1501	2.10	1.70	3.80	3.10	5.20	3.80	5.90	1.3
2	R2001	3.75	1.90	5.65	3.45	7.20	4.20	7.95	1.6
2½	R2501	4.25	2.10	6.35	3.75	8.00	4.55	8.80	2.5
3	R3001	5.35	2.80	8.35	4.50	10.05	5.40	10.95	3.8
3½	R3501	7.80	3.50	11.30	5.20	13.00	6.05	13.85	5.1
4	R4001	8.85	5.20	14.05	6.95	15.80	7.80	16.65	6.5
4½	R4501	13.85	6.95	20.80	8.65	22.50	9.55	23.40	8.5
5	R5001	17.35	8.65	26.00	10.40	27.75	11.30	28.65	13.0
6	R6001	30.30	13.00	43.30	14.75	45.05	15.60	45.90	19.8

Specify: (1) Type of Conductor. (2) Number of Conductors in the conduit. (3) Outside diameter of each.

O.Z. CABLE SUPPORTS

SPLIT TYPE "D"



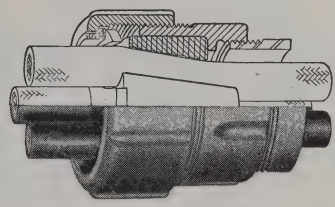
For use **where** cables are already installed in the conduit.

Use with two or more Standard Rubber, synthetic, plastic, varnished cambric or lead covered cables.

Specify: (1) Type of conductor. (2) Number of conductors in the conduit. (3) Outside diameter of each.

Conduit Size	Cat. No.	List Price 2 or 4 Same Size Wires	List Price 5 or More, or Diff. Size Wires	Approx. Wt. Lbs.
½	D502	$ 2.60	$ 3.05	.13
¾	D752	2.60	3.05	.19
1	D1002	3.05	3.65	.25
1¼	D1252	3.15	3.75	.44
1½	D1502	3.80	4.50	.63
2	D2002	5.65	6.40	.81
2½	D2502	6.35	7.15	1.1
3	D3002	8.35	9.25	1.4
3½	D3502	11.30	12.20	2.6
4	D4002	14.05	14.95	3.3
4½	D4502	20.80	21.70	3.4
5	D5002	26.00	26.90	3.6
6	D6002	43.30	44.20	5.3

LOCK TYPE "K"



Can be installed in horizontal or inverted position. Can be installed for Thin Wall Conduit (E.M.T.) and Fibre Conduit on request at additional charge. Finish cadmium plated. For hot-dip galvanized add 25% to list price.

Conduit Size	Cat. No.	List Price 2 or 4 Same Size Wires	List Price 5 or More, or Diff. Size Wires	Approx. Wt. Lbs.
½	K503	$ 5.20	$ 6.10	.50
¾	K753	5.20	6.10	.63
1	K1003	6.10	7.30	.75
1¼	K1253	6.30	7.50	.88
1½	K1503	7.60	9.00	1.4
2	K2003	11.30	12.80	2.3
2½	K2503	12.70	14.30	3.3
3	K3003	16.70	18.50	4.8
3½	K3503	22.60	24.40	6.1
4	K4003	28.10	29.90	8.1
4½	K4503	41.60	43.40	10.0
5	K5003	52.00	53.80	17.0
6	K6003	86.60	88.40	25.0

Specify: (1) Type of conductor. (2) Number of conductors in conduit. Outside diameter of each.

KELLEMS SUPPORT GRIPS

Kellems Support and Riser Grips are made of tin coated bronze. Also available in stainless steel for severe conditions.

CLOSED GRIPS

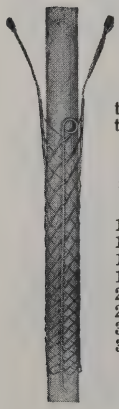
Used for new installation and where end of cable is available.

For Cable Diam. In.	Double Eye Closed Cat. No.	Double Eye Closed Price Each	Single Eye Closed Cat. No.	Single Eye Closed Price Each
¾ to 1	R075	$1.90	R075-U	$1.90
1 to 1¼	R100	2.50	R100-U	2.50
1¼ to 1½	R125	2.80	R125-U	2.80
1½ to 1¾	R150	3.20	R150-U	3.20
1¾ to 2	R175	3.80	R175-U	3.90
2 to 2½	R200	4.30	R200-U	4.50
2½ to 3	R250	4.80	R250-U	5.05
3 to 3½	R300	5.40	R300-U	5.90
3½ to 4	R350	5.90	R350-U	6.40

SPLIT GRIPS

With tin coated bronze lacing used where end of cable is not available.

For Cable Diam., In.	Double Eye Split Cat. No.	Double Eye Split Price Each	Single Eye Split Cat. No.	Single Eye Split Price Each
¾ to 1	RS075	$2.10	RS075-U	$2.10
1 to 1¼	RS100	2.70	RS100-U	2.70
1¼ to 1½	RS125	3.00	RS125-U	3.00
1½ to 1¾	RS150	3.40	RS150-U	3.40
1¾ to 2	RS175	4.05	RS175-U	4.15
2 to 2½	RS200	4.55	RS200-U	4.75
2½ to 3	RS250	5.05	RS250-U	5.30
3 to 3½	RS300	5.70	RS300-U	6.15
3½ to 4	RS350	6.20	RS350-U	6.65



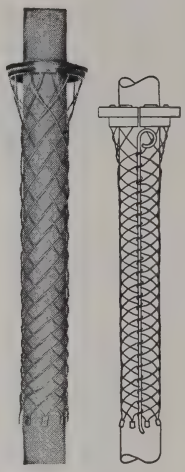
SPLIT GRIPS

Closed with a rod. Faster installation, with factory skill replacing on-the-job lacing.

For Cable Diam., In.	Double Eye Split Cat. No.	Double Eye Split Price Each	Single Eye Split Cat. No.	Single Eye Split Price Each
¾ to 1	RR075	$2.15	RR075-U	$2.15
1 to 1¼	RR100	2.75	RR100-U	2.75
1¼ to 1½	RR125	3.05	RR125-U	3.05
1½ to 1¾	RR150	3.45	RR150-U	3.45
1¾ to 2	RR175	4.10	RR175-U	4.15
2 to 2½	RR200	4.60	RR200-U	4.80
2½ to 3	RR250	5.10	RR250-U	5.35
3 to 3½	RR300	5.75	RR300-U	6.20
3½ to 4	RR350	6.25	RR350-U	6.70

KELLEMS SUPPORT GRIPS

CONDUIT RISER GRIPS



Kellems Conduit Riser Grip is made of tin-coated bronze wire with a tin-coated bronze Ring that seats on the end of the conduit. The Grip slips inside the conduit. A cap or bushing can be threaded on the conduit over the Ring. The perfect support for riser cable in conduit. Made in Single or Double Weave Closed, and Double Weave Split (with lacing) or Single Weave Split (with Rod Closing). In ordering give conduit size and cable size.

The catalog number is made up of Conduit Size (C-2) plus Type Designation (R) plus Grip Size (100), thus C2-R100, **$2.70.**

Conduit Size	Add Ring Extra	Grip Size	Base Price Type Designation Single Weave -R	Double Weave -RD	Split Lacing -RS	Rod Closing -RR
C 1¼-	$0.00					
C 1½-	.00	075	$2.10	$2.60	$2.90	$2.50
C 2 -	.10	100	2.70	3.30	3.60	3.10
C 2½-	.20	125	3.00	3.60	3.90	3.50
C 3 -	.25	150	3.40	4.00	4.30	4.00
C 3½-	.30	175	3.90	4.60	4.90	4.40
C 4 -	.40	200	4.20	5.20	5.60	4.80
C 4½-	.50	250	4.70	5.90	6.30	5.50
C 5 -	.60	300	4.90	6.20	6.60	5.70
C 6 -	.90	350	5.40	7.00	7.40	6.20

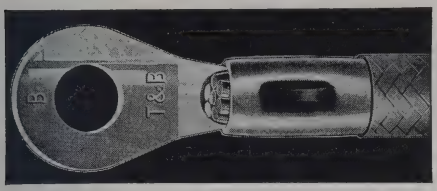
KELLEMS SERVICE DROP GRIPS

The "Concentric" support for modern service cable, round or oval.

Cat. No.	For Cable Diam., In.	Price Each	Cat. No.	For Cable Diam., In.	Price Each
SD 4	.23-.31	$0.20	SD11	.64- .75	$0.42
SD 5	.29-.37	.22	SD12	.70- .81	.43
SD 6	.35-.44	.24	SD13	.75- .87	.44
SD 7	.41-.50	.26	SD14	.81- .94	.46
SD 8	.46-.56	.34	SD15	.87-1.00	.48
SD 9	.52-.62	.40	SD16	.94-1.06	.52
SD10	.58-.68	.41	SD17	1.00-1.18	.56

T & B STA-KON PRESSURE TERMINALS–INSULATED CONNECTORS

Approved by Underwriters' Laboratories



Patented

There is a variety of Sta-Kon terminals made for each wire size from #22 to 250 M.C.M. Commercial AWG.

A secure mechanical grip on the wire is produced by the pressure of the stake-mark which runs parallel to the strands. Once installed, the Sta-Kon becomes a part of the wire itself. A highly conductive electrical connection is the result.

The Sta-Kon terminal has an electrolytic copper tongue that comes into direct contact with the wire. The complete terminal is hot-tinned.

The Sta-Kon hand or power operated tools apply the staking pressure, making an immediate electrical connection, which is mechanically as strong as the wire itself.

Standard Series—For use with Stock Tools No. WT-111M and No. WT-115

Cat. No.	Wire Size (Com'l AWG)	Std. Pkg.	Unit Quan.	Bolt Size	Price Per 100
A18-6	#22 to #18	1000	100	#6, #4	$2.95
A18-10	#22 to #18	1000	100	#10, #8	2.95
A18-14	#22 to #18	1000	100	¼	2.95
B14-6	#20, #14	2000	100	#6, #4	2.95
B14-10	#20, #14	2000	100	#10, #8	2.95
B14-14	#20, #14	2000	100	¼	2.95
C10-6	#16, #10	1000	50	#6, #4	4.00
C10-10	#16, #10	1000	50	#10, #8	4.00
C10-14	#16, #10	1000	50	¼	4.00
C10-516	#16, #10	1000	50	5/16	4.00
D8-10	#9 to #7	500	25	#10, #8	8.00
D8-14	#9 to #7	500	25	¼	8.00
D8-516	#9 to #7	500	25	5/16	8.00
E6-14	#6, #5	200	20	¼	8.80
E6-516	#6, #5	200	20	5/16	8.80
E6-38	#6, #5	200	20	3/8	8.80
F4-14	#4, #3	200	20	¼	12.00
F4-516	#4, #3	200	20	5/16	12.00
F4-38	#4, #3	200	20	3/8	12.00
G1-14	#1	100	10	¼	20.00
G1-516	#1	100	10	5/16	20.00
G1-38	#1	100	10	3/8	20.00
G2-14	#2	100	10	¼	20.00
G2-516	#2	100	10	5/16	20.00
G2-30	#2	100	10	5/8	20.00

Standard Series for Larger Wires—For Use with No. WT-127 and Power Tools

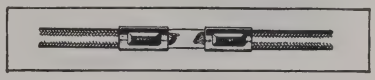
H10-14	1/0	100	10	¼	25.50
J20-38	2/0	100	10	3/8	28.75
K30-38	3/0	50	5	3/8	33.50
L40-38	4/0	50	5	5/8	43.25
M250-38	250 MCM	50	5	3/8	49.50

T & B STA-KON CONNECTORS

Approved by Underwriters' Laboratories and Other Approved Authorities

STA-KON TWO-WAY CONNECTORS

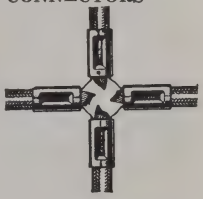
For Use with Stock Tools WT-111M and WT-115



Cat. No.	Wire Size (Com'l AWG) Each End	Std. Pkg.	Unit Quan.	Wt. Lbs. Per 1000	Price Per 100
2A 18	#22 to #18	1000	100	2½	$4.50
2B 14	#20, #14	1000	100	3½	4.50
2C 10	#16, #10	500	50	7	6.40
2D 8	#9, #8, #7	250	25	19	11.50
2E 6	#6, #5	200	20	27	12.50
2F 4	#4, #3	150	15	38	15.20

STA-KON FOUR-WAY CONNECTORS

For Use with Stock Tool WT-111M



For use with Standard (A.W.G.) Code Wire. Will also fit any type or size of wire that will go in the barrel.

For three-way connectors remove one branch with cutting pliers.

Cat. No.	Wire Size (Com'l AGW) Each End	Std. Pkg.	Unit Quan.	Wt. Lbs. Per 1000	Price Per 100
4A 18	#22 to #18	500	50	5	$10.60
4B 14	#16, #14	500	50	6	10.60
4C 10	#12, #10	500	25	13	13.30

Sta-Kon Pigtail Connectors—Inquiries are invited for Sta-Kon connectors for pigtailing or connecting wire ends.

STA-KON WIRE JOINTS

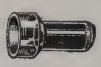
PT-66

PT-60

PT-70

Maximum capacity 3 No. 12 wires, solid or stranded. Approved by Underwriters' Laboratories for circuit and fixture splices. Installs with standard WT-111M Sta-Kon hand tool.

Cat. No.	Description	Unit Quan.	Std. Pkg.	Wt. Lbs. Per 1000	Price Per 100
PT-66	Complete Joint	100	1000	8½	$6.40
PT-60	Connector only	100	1000	6	2.70
PT-6	Insulator only	100	1000	2½	3.70
	Without Ears for Use with Tape				
PT-70	Connector only	200	2000	6	2.70



STA-KON ONE-PIECE INSULATED PIGTAIL SPLICE

For Use with No. WT-105M Tool

Cat. No.	Wire Size	Unit Quan.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
RB-44	2 #14 or #16 3 #18, etc.....	100	1000	1.3	$3.70
RC-55	3 #14 or 4 #16, etc.....	50	500	2.5	4.50

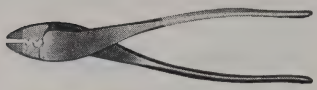
STA-KON 2-WAY INSULATED CONNECTORS

For Use with WT-105M Tool

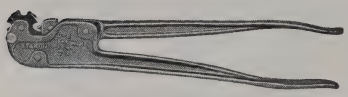
Cat. No.	Wire Size Each End	Unit Quan.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
2B-16	2 #16	100	1000	2	$4.00
2C-12	2 #12	100	1000	3	4.95

T & B STA-KON TOOLS

STA-KON HAND TOOLS



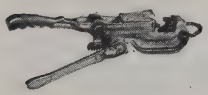
No. WT-111-M



No. WT-115

Simple, fast operating and well balanced. Head of drop forged steel.

Cat. No.	Installs Terminals for Wire Sizes	Color of Handle	Std. Pkg.	Wt. Lbs. Each	Price Each
WT-110M	#22 to #10	Green	1	¾	$3.50
WT-111M	#22 to #10	Red	1	¾	3.00
WT-115	# 8 to # 1	Black	1	3½	18.00
WT-105M	For RB-44, RB-65 Splice	White	1	¾	4.50



RATCHET TOOL

With one nest.

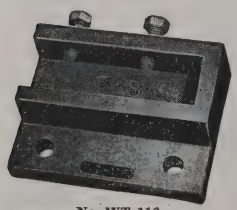
Cat. No.	Installs Terminals For Wire Sizes	Std. Pkg.	Wt. Lbs. Each	Price Each
WT-127G	#2, #1			
WT-127H	1/0			
WT-127J	2/0	1	12	$50.00
WT-127K	3/0			
WT-127L	4/0			
WT-127M	250MCM	1	10	45.00

SHURE STAKE TOOL

Toggle type hand tool with pawl which guarantees perfect 'Sta-Kon" Installations.

Work cannot be removed until stake is properly completed. Cushion grip handles.

Cat. No.	Installs Terminals For Wire Sizes	Color of Handle	Std. Pkg.	Wt. Lbs. Each	Price Each
WT-130	#22 to #10	Red	1	3	$12.00



No. WT-116

BENCH ADAPTER

For hand tools, WT-115 or WT-127.

Cat. No.	Std. Pkg.	Wt. Lbs. Each	Price Each
WT116	1	2½	$2.00

T & B "LOCK-TITE" LUGS AND CONNECTORS

Approved by Underwriters' Laboratories

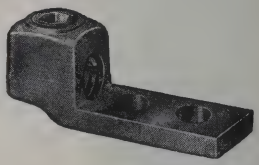
LOCK-TITE LUGS—ONE BOLT HOLE TONGUE

Seven sizes of lugs take all cable sizes from No. 4 to 1,000,000 CM and all types of conductors: Stranded, solid, flexible, etc. Each lug is one-piece design. Uniform pressure all around provides direct contact and high conductivity. Tests prove that Lock-Tite fittings make up tight, stay tight and run cooler than the cable.

Cat. No.	Description	Unit Quan.	Price Per 100	Use Key Wrench Cat. No.
31003	14 Sol. to 8 Sol.	18	$68.00	....
31005	8 Sol. to 6 Sol. or Str.	18	68.50	....
31007	4 Sol. to 1 Str.	18	86.50	30
31009	1 Sol. to 2/0	12	136.00	30
31011	2/0 to 4/0	12	186.00	30
31013	4/0 to 300 MCM	12	226.00	50
31015	300 to 500 MCM	6	360.00	50
31017	500 to 750 MCM	6	620.00	50
31019	750 to 1000 MCM	6	720.00	50

LOCK-TITE LUGS—TWO BOLT HOLE TONGUE

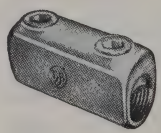
Bolt holes and spacings are standard, but lugs with blank tongue will be furnished, if specified, without extra charge.



Cat. No.	Description	Unit Quan.	Price Per 100	Use Key Wrench Cat. No.
32007	4 Sol. to 1 Str.	12	$112.00	30
32009	1 Sol. to 2/0	6	162.00	30
32011	2/0 to 4/0	6	211.00	30
32013	4/0 to 300 MCM	6	270.00	50
32015	300 to 500 MCM	3	410.00	50
32017	500 to 750 MCM	3	620.00	50
32019	750 to 1000 MCM	3	795.00	50

For Hex-head-screw, prefix above numbers with "H." Prices are same for both types. Special connectors can be supplied. Prices and information on request.

LOCK-TITE TWO-WAY CONNECTORS

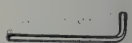


Seven connectors splice all cables No. 4 to 1,000,000 CM. Each connector takes a wide range of cable sizes and all types of conductors. Quickly installed with key wrench.

Cat. No.	Cable Size	Unit Quan.	Std. Pkg.	Price Per 100
32507	4 Sol. to 1 Str.	12	72	$123.00
32509	1 Sol. to 2/0	6	36	186.00
32511	2/0 to 4/0	6	36	275.00
32513	4/0 to 300 MCM	6	36	380.00
32515	300 to 500 MCM	3	18	645.00
32517	500 to 750 MCM	3	18	1050.00
32519	750 to 1000 MCM	3	18	1240.00

KEY WRENCH

Cat. No.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
30	1	9	$10.00
50	1	31	15.00



T & B "LOCK-TITE" TEE-PARALLEL TAPS

Approved by Underwriters' Laboratories

Patented

These fittings can be used as either a tee or parallel tap two-way connector, or elbow. Each tap has a wide range of cable sizes. The one-piece design—no detachable parts — allows easy assembly to main and branch.

In this listing, the Main indicates the size of cable running through the tap, the Branch the size of cable to be connected to the main.

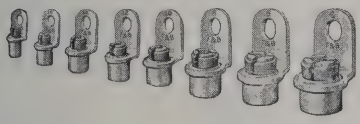
Cat. No.	Cable Size—Main	Cable Size—Branch	Unit Quan.	Price Per 100
35003	1/0 to 4/0	2 Sol. & Str. to 1	6	$221.00
35005	1/0 to 4/0	1/0 to 4/0	6	260.00
35007	4/0 to 300 MCM	2 Sol. & Str. to 1/0	6	260.00
35009	4/0 to 300 MCM	2/0 to 300 MCM	6	370.00
35011	300 to 500 MCM	2 Sol. & Str. to 3/0	6	435.00
35013	300 to 500 MCM	4/0 to 500 MCM	6	555.00
35015	500 to 750 MCM	2 Sol. & Str. to 3/0	3	665.00
35017	500 to 750 MCM	4/0 to 500 MCM	3	850.00
35019*	500 to 750 MCM	500 to 750 MCM	3	1030.00
35021	750 to 1000 MCM	2 Sol. & Str. to 3/0	3	675.00
35023	750 to 1000 MCM	4/0 to 500 MCM	3	825.00
35025*	750 to 1000 MCM	500 to 750 MCM	3	945.00
35027*	750 to 1000 MCM	750 to 1000 MCM	3	995.00

*These sizes supplied with two clamping screws instead of as illustrated.

T & B "WEDGE-ON" DEVICES

T & B "WEDGE-ON" LUGS

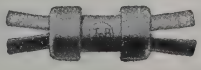
Approved by Underwriters' Laboratories



Cat. No.	Wire Size	Carton	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
18L100	22 to 18 S. & S.	100	200	4½	$12.80
16L100	16 S. & S.	100	200	6½	12.80
14L100	14 S. & S.	100	200	8	12.80
12L100	12 S. & S.	100	200	10	14.40
10L100	10 S. & S.	100	200	11	16.80
9L101	(See Note)	100	200	15	19.20
8L100	8 S. & S.	50	200	21	20.75
6L100	6 Stranded	50	200	28	24.00
6SL100	6 Solid	50	200	28	24.00
4L100	4 Stranded	50	200	32	27.25
4SL100	4 Solid	50	200	32	27.25

Terminals of special sizes and shapes can be furnished. No. 9L101 takes 19 strands of No. 22 control wire.

T & B "WEDGE-ON" WIRE SPLICERS



Made of high conductivity and high tensile strength bronze. For splicing one size smaller or larger wire on one end than on the other specify size for both ends. Use same price as the splicer listed for the larger wire size.

Cat. No.	Size S. & S.	Wt. Lbs. Per 100	Price Per 100	Cat. No.	Size S. & S.	Wt. Lbs. Per 100	Price Per 100
16C	16	2½	$23.75	9C	9	2	$27.50
14C	14	2½	23.75	8C	8	4½	37.50
12C	12	2½	27.50	6C	6	6	45.00
10C	10	2	27.50	4C	4	6	45.00

Standard package, 100.

T & B "WEDGE-ON" TOOL

For use in installing T&B "Wedge-On" Lugs; Splicers.

Cat. No.	For Terminal Sizes	Std. Pkg.	Wt. Lbs. Each	Price Each
21000	8 to 16, Incl.	1	1½	$5.00
21001	8, 6 and 4	1	1½	5.00
21004	22, 18, 16, and 14	1	1½	5.00

T & B "HINJON" JUNIOR TEE-PARALLEL TAP

For Mains No. 8 to 1000 MCM—For Small Wire Branches No. 14 to No. 1

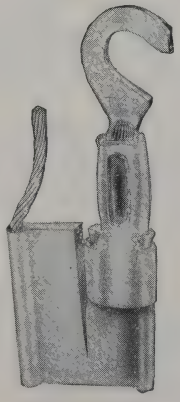
Approved by Underwriters' Laboratories

Patented

The T&B Hinjon Junior is compact, small and easy to tape. Twelve fittings take the entire range of sizes shown above. Self-adjusting jaws grip main and branch cable all around providing a perfect electrical and mechanical connection. To make a tee tap, just bend the branch.

Cat. No.	Cable Size—Main	Cable Size—Branch	Price Per 100
35107	8 to No. 4	14 to 8	$116.00
35108	8 to No. 4	8 to 4	125.00
35109	4 to 1/0	14 to 4	138.00
35110	4 to 1/0	4 to 1	165.00
35111	1/0 to 4/0	14 to 4	195.00
35112	1/0 to 4/0	8 to 1	210.00
35113	4/0 to 300 MCM	14 to 4	235.00
35114	4/0 to 300 MCM	8 to 1	255.00
35115	300 to 500 MCM	14 to 4	320.00
35116	300 to 500 MCM	8 to 1	390.00
35118	500 to 750 MCM	14 to 1	490.00
35120	750 to 1000 MCM	14 to 1	675.00

T & B STA-KON TELEVISION HOOK TERMINALS



For dual conductor plastic ribbon lead-in.

Cat. No.	Wire Size	Price Per 100
A18-6TV	.025–.046	$3.50
A18-10TV	.025–.046	3.50

Weight pounds per 100, 2½.

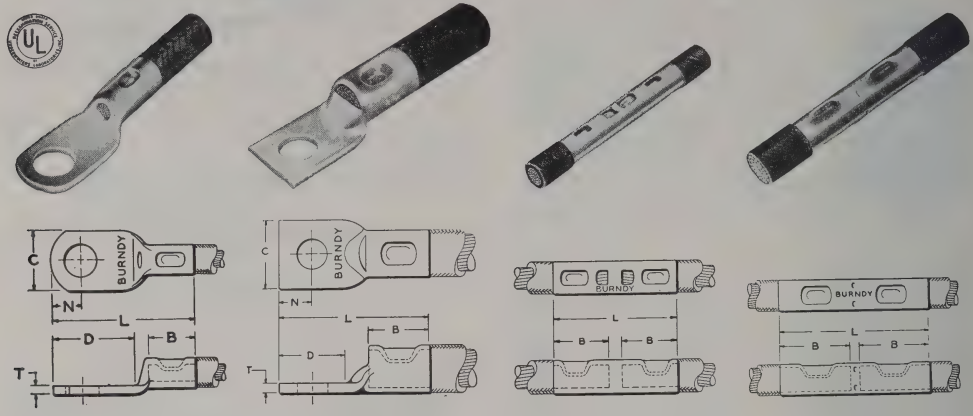
Carton quantity, 100.

Standard package, 1000.

BURNDY HYLUGS and HYLINKS — (INDENT TYPES)

INSTALLED WITH BURNDY HYTOOLS AND HYPRESSES (See Below)

Made for all sizes of wire and cable. Commonly used sizes listed below.

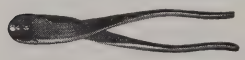


Type YAV **Type YA-L** **Type YSV** **Type YS-L**

Conductor Size	For Use on Screw Size	Cat. No.	Carton No.‡	Carton Qty.	Std. Pkg. Qty.	Dimensions in Inches B	C	D	L App.	N	T App.
HYLUGS											
20-12 Sol.	4 or 6	YAV14-T5	145	200	2000	1/4	5/16	7/16	3/4	5/32	5/64
20-14 Str.	8 or 10	YAV14	140	200	2000	1/4	5/16	7/16	3/4	5/32	5/64
	1/4	YAV14-T2	142	200	2000	1/4	13/32	13/32	59/64	1/4	1/32
12-10 Str.	8 or 10	YAV10	100	100	1000	5/16	3/8	15/32	7/8	5/16	1/16
10-9 Sol.	1/4	YAV10-T3	103	100	1000	5/16	15/32	13/32	1	1/4	5/64
8 Str.	8 or 10	YAV8C-L	80	100	1000	7/16	13/32	1/2	1 3/8	7/32	1/16
	1/4	YAV8C-L1	81	100	1000	7/16	13/32	17/32	1 3/8	1/4	1/16
6 Str.	1/4	YA6C-L	60	50	500	13/16	13/32	1/2	1 15/32	1/4	3/32
	8 or 10	YA6C-L1	61	50	500	13/16	13/32	1/2	1 15/32	1/4	3/32
4 Str.	1/4	YA4C-L	40	50	500	13/16	1/2	1/2	1 1/2	1/4	3/32
	8 or 10	YA4C-L1	41	50	500	13/16	1/2	1/2	1 1/2	1/4	3/32
2 Str.	5/16	YA2C-L	20	25	250	7/8	9/16	3/4	1 31/32	3/8	7/64
	1/4	YA2C-L2	22	25	250	7/8	5/16	3/4	1 27/32	3/8	7/64
1/0 Str.	5/16	YA25-L	250	15	150	7/8	3/4	3/4	1 7/8	3/8	1/8
	3/8	YA25-L4	254	15	150	7/8	3/4	3/4	1 7/8	3/8	1/8
2/0 Str.	3/8	YA26-L	260	10	100	15/16	13/16	7/8	2 3/32	7/16	1/8
3/0 Str.	3/8	YA27-L4	274	10	100	1	31/32	1	2 5/16	1/2	1/8
4/0 Str.	3/8	YA28-L4	284	10	100	1	1	1	2 11/32	1/2	9/64

Cat. No.	Carton No.‡	Carton Qty.	Std. Pkg. Qty.	Dimen. in In. B	L App.
HYLINKS					
YSV14	S140	200	2000	1/4	5/8
YSV10	S100	200	2000	5/16	3/4
YS8C-L	S80	100	1000	7/16	15/16
YS6C-L	S60	50	500	13/16	1 3/4
YS4C-L	S40	50	500	13/16	1 3/4
YS2C-L	S20	25	250	7/8	1 7/8
YS25-L	S250	15	150	7/8	1 7/8
YS26-L	S260	10	100	15/16	2
YS27-L	S270	10	100	1	2 1/8
YS28-L	S280	8	80	1	2 1/8

‡Order by Carton Number. For larger sizes of Hylugs and Hylinks, information on request.



HYTOOL, Catalog No. Y14MV

A popular hand tool for installing Hydent connectors on conductor sizes, No. 22 to 8.

HYTOOL, Catalog No. MY29

A self-contained hand tool for installing Hydent connectors on conductor sizes No. 8 to 250 Mcm. No removable dies are required.

HYPRESS, Catalog No. Y34A

A fully insulated, hand-operated hydraulic tool for installing Hydent connectors on conductors No. 6 to 500 Mcm, with proper dies.

HYLUG CONNECTOR KIT No. 10

Contains 325 assorted Hylugs and Hylinks for conductors No. 20 through No. 10, packed in useful plastic jars, and one Hytool Y14MV for installing all of these sizes.

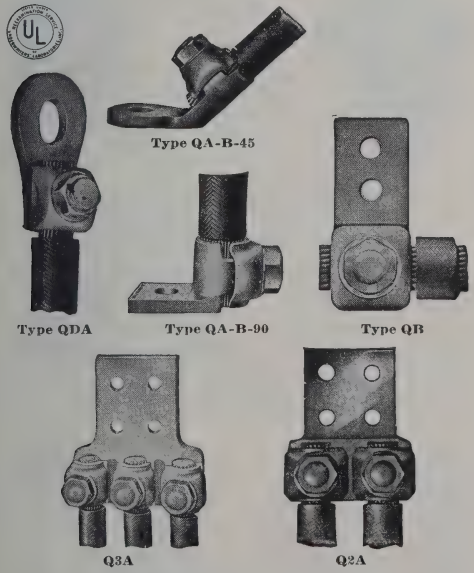
BURNDY ELECTRICAL CONNECTORS

QIKLUG—TYPE QA-B

A heavy duty terminal for rapid termination of wires and cables. The Qiklug accommodates a range of cable sizes, and is supplied with one, two or more holes in the terminal tongue. Also furnished with tongues and drilling to order.

Cat. No.	Cable Size	No. Holes in Contact Pad	Shpg. Wt. Lbs. Per 100
QA8C-B	14 Sol. to 8 Str.	1	8
QA8C-2B	14 Sol. to 8 Str.	2	10
QA4C-B	6 Sol. to 4 Str.	1	9
QA4C-2B	6 Sol. to 4 Str.	2	10
QA1C-B	4 Str. to 1 Str.	1	13
QA1C-2B	4 Str. to 1 Str.	2	16
QA26-B	1/0 Str. to 2/0 Str.	1	23
QA26-2B	1/0 Str. to 2/0 Str.	2	28
QA28-B	3/0 Str. to 4/0 Str.	1	28
QA28-2B	3/0 Str. to 4/0 Str.	2	34
QA31-B	250 MCM to 350 MCM	1	53
QA31-2B	250 MCM to 350 MCM	2	60
QA34-B	400 MCM to 500 MCM	1	82
QA34-2B	400 MCM to 500 MCM	2	84
QA40-B	600 MCM to 800 MCM	1	130
QA40-2B	600 MCM to 800 MCM	2	140
QA44-B	850 MCM to 1000 MCM	1	170
QA44-2B	850 MCM to 1000 MCM	2	170

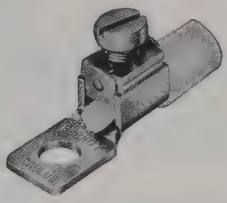
QIKLUG VARIATIONS



Shown above are several of the many variations of the Burndy Qiklug — terminals designed for multiple cable accommodation, unusual angles, long cable drops and other requirements. When ordering specify tongue dimensions and drilling.

BURNDY ELECTRICAL CONNECTORS

SCRULUG—TYPE KPA



For low cost indoor terminal connections. Installed with screwdriver or pliers. Compact construction, especially useful on panelboards, in fuse boxes, safety switches, etc.

Cat. No.	Conductor Range Minimum	Conductor Range Maximum	Conductor Rating (Rub. Ins.)	Carton Qty.	Shpg. Wt. Lbs. Per 1000
KPA8C	14 Sol.	8 Str.	55A	250	23
KPA4C	14 Sol.	4 Str.	105A	250	35
KPA25	4 Str.	1/0 Str.	195A	100	80
KPA28	1/0 Str.	4/0 Str.	300A	25	250
KPA34	4/0 Str.	500 Mcm.	515A	18	500

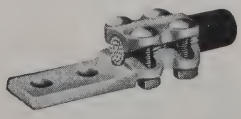
VARILUG—TYPES VA AND VVA

The Varilug is designed to accommodate a wide range of conductor sizes. The flattened V-bolt will not cut into or damage the strands. The double V-bolt type VVA is recommended where the cable is under considerable strain.

Recommended especially for use with flexible and extra-flexible cables.

Cat. No.	Cable Range From	Cable Range To	No. of Holes in Pad	Shpg. Wt. Lbs. Per 100
VA4C	8 Sol.	4 Str.	1	21
VA2C	8 Sol.	2 Str.	1	30
VA25	6 Sol.	1/0 Str.	1	40
VA25-2	6 Sol.	1/0 Str.	2	44
VA28	1/0 Str.	4/0 Str.	1	59
VA28-2	1/0 Str.	4/0 Str.	2	67
VA30	1/0 Str.	300 Mcm.	1	78
VA30-2	1/0 Str.	300 Mcm.	2	86
VA34	300 Mcm.	500 Mcm.	1	130
VA34-2	300 Mcm.	500 Mcm.	2	140
VA34-4	300 Mcm.	500 Mcm.	4	160
VA40	500 Mcm.	800 Mcm.	1	210
VA40-2	500 Mcm.	800 Mcm.	2	220
VA40-4	500 Mcm.	800 Mcm.	4	220

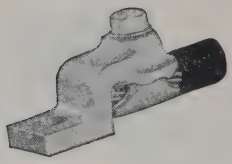
TERMINAL—TYPE NA



A Multigrip, heavy duty terminal for all sizes of cable or tube. Special tongue designs supplied.

BURNDY ELECTRICAL CONNECTORS

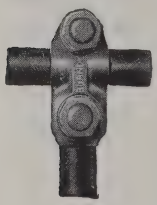
VERSILUG—TYPE EA



An easily installed, versatile terminal, with a new swivel principle which permits connection of the conductor at several angles. Six sizes take conductors from No. 8 wire to 1000 Mcm. cable.

Cat. No.	Cable Range	No. Holes in Contact Tongue	Shpg. Wt. Lbs. Per 100
EA2C	8 Sol. to 2 Str.	1	28
EA2C-2	8 Sol. to 2 Str.	2	31
EA25	2 Str. to 1/0 Str.	1	32
EA25-2	2 Str. to 1/0 Str.	2	36
EA28	1/0 Str. to 4/0 Str.	1	59
EA28-2	1/0 Str. to 4/0 Str.	2	67
EA34	250 Mcm. to 500 Mcm.	1	120
EA34-2	250 Mcm. to 500 Mcm.	2	130
EA40	500 Mcm. to 800 Mcm.	1	190
EA40-2	500 Mcm. to 800 Mcm.	2	200
EA44	750 Mcm. to 1000 Mcm.	1	250
EA44-2	750 Mcm. to 1000 Mcm.	2	270

QIKTAP — TYPE QT



A compact T-connector for cable. High compression contacts enforced by large bolts and nuts. Same wrench setting operates both nuts. Locked against loosening from any form of vibration.

Supplied for all combinations of cables in sizes from 2 to 2,000,000 CM in both cable run and cable tap.

CLIP—TYPE BC

Burndy bronze clips for transmission line work combine the qualities of strength greater than steel and corrosion resistance; an ideal combination for transmission line and sub-station installations. Due to the high copper content of bronze (96%), electrolysis when in contact with brass, bronze, or copper-covered steel guy wires is prevented. Fitted with Durium U-bolts, nuts, and lockwashers.

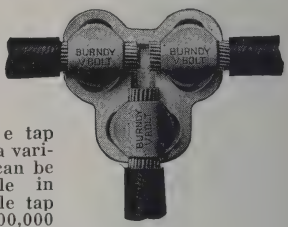
Cat. No.	Cable Size Bare Copper	Guy Wire, In.	Shpg. Wt. Lbs. Each
BC2C	4 Sol.–2-Sol.	5/16	1/2
BC25	1/0 Str.	3/8	3/4
BC28	2/0–4/0 Str.	1/2	1
BC30	4/0–300 Mcm.	5/8	1 1/4
BC32	350 Mcm.— 400 Mcm.	3/4	1 3/4
BC35	450 Mcm.— 550 Mcm.	7/8	2
BC39	600 Mcm.— 750 Mcm.	1	2 3/4
BC44	800 Mcm.—1000 Mcm.	1 1/8	3 3/4

BURNDY ELECTRICAL CONNECTORS

VARITAP—TYPE VT

For a large range and variation of cable sizes on run and tap. Quickly installed with a wrench. Double V-bolt types recommended under conditions of severe strain or vibration. Especially applicable for extra flexible cable.

VARITAP—TYPE VRT

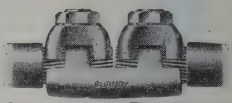


A three-way connector, used for cables of equal or different diameters. Where run conductors meet at an angle, or the tap leaves at an angle, a variation of this type can be supplied. Available in cable run and cable tap from No. 8 to 2,000,000 CM.

T-CONNECTOR—TYPE NT

A multiple type T-Connector for cable run and cable tap in sizes from No. 4 to 2,000,000 CM. Oval-shank bolts permit rapid installation with a single wrench. High copper alloy body with Durium bolts, nuts and lockwashers provide a complete corrosion resistant assembly. Recommended for use where continuous heavy current loads must be carried.

QIKLINK—TYPE QR

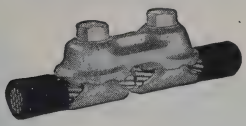


For joining two cables on end. Installed by simply tightening two Durium nuts. Form a neat and compact joint that is readily taped. Retains full salvage value. Electrically it will remain cooler than the cables under overload conditions.

Cat. No.	Min. Cable Size	Max. Cable Size	Shpg. Wt. Lbs. Per 100
QR8C	#14 Sol.	#8 Str.	13
QR4C	6 Sol.	4 Str.	13
QR1C	4 Str.	1 Str.	20
QR26	1/0 Str.	2/0 Str.	37
QR28	3/0 Str.	4/0 Str.	39
QR31	250 MCM	350 MCM	76
QR34	400 MCM	500 MCM	120
QR40	600 MCM	800 MCM	200
QR44	850 MCM	1000 MCM	220
QR46	1100 MCM	1500 MCM	390
QR48	1600 MCM	2000 MCM	560

BURNDY ELECTRICAL CONNECTORS

VERSILINK—TYPE ER



Versi-Connector for use either as a link, reducer or elbow. May be used with any number of combinations of cables. Swivel cable grips permit cables to be joined at several angles.

Cat. No.	Conductor Sizes: Cable Range—Other End			Cable Range—One End			Shpg. Wt. Lbs. Per 100
ER2C2C	8 Sol.	to	2 Str.	8 Sol.	to	2 Str.	30
ER252C	2 Str.	to	1/0 Str.	8 Sol.	to	2 Str.	34
ER2525	2 Str.	to	1/0 Str.	2 Str.	to	1/0 Str.	39
ER282C	1/0 Str.	to	4/0 Str.	8 Sol.	to	2 Str.	46
ER2825	1/0 Str.	to	4/0 Str.	2 Str.	to	1/0 Str.	52
ER2828	1/0 Str.	to	4/0 Str.	1/0 Str.	to	4/0 Str.	65
ER342C	250 Mcm.	to	500 Mcm.	8 Sol.	to	2 Str.	80
ER3425	250 Mcm.	to	500 Mcm.	2 Str.	to	1/0 Str.	85
ER3428	250 Mcm.	to	500 Mcm.	1/0 Str.	to	4/0 Str.	96
ER3434	250 Mcm.	to	500 Mcm.	250 Mcm.	to	500 Mcm.	120
ER402C	500 Mcm.	to	800 Mcm.	8 Sol.	to	2 Str.	140
ER4025	500 Mcm.	to	800 Mcm.	2 Str.	to	1/0 Str.	150
ER4028	500 Mcm.	to	800 Mcm.	1/0 Str.	to	4/0 Str.	160
ER4034	500 Mcm.	to	800 Mcm.	250 Mcm.	to	500 Mcm.	200
ER4040	500 Mcm.	to	800 Mcm.	500 Mcm.	to	800 Mcm.	260
ER442C	750 Mcm.	to	1000 Mcm.	8 Sol.	to	2 Str.	170
ER4425	750 Mcm.	to	1000 Mcm.	2 Str.	to	1/0 Str.	180
ER4428	750 Mcm.	to	1000 Mcm.	1/0 Str.	to	4/0 Str.	190
ER4434	750 Mcm.	to	1000 Mcm.	250 Mcm.	to	500 Mcm.	220
ER4440	750 Mcm.	to	1000 Mcm.	500 Mcm.	to	800 Mcm.	290
ER4444	750 Mcm.	to	1000 Mcm.	750 Mcm.	to	1000 Mcm.	320

TWIN LINK—TYPE Q2R

For connecting two cables to one cable on end, the connector shown has been successfully used. Where desired, the two cable sockets can be arranged back to back.

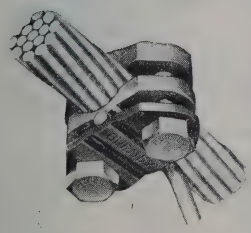
Special end-to-end connectors for joining cables of equal or different diameters, single or in mulitple, can be supplied on short notice.

STREAMLINED PARALLEL CLAMP—TYPE RP

Compact, streamlined clamp. Quickly installed with socket wrench provided. Made for conductors, No. 14 sol. to 1000 Mcm.

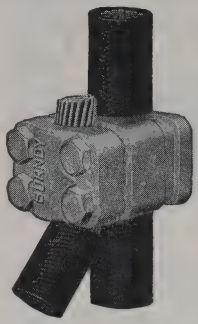
UNITAP—TYPE BPG

(Listed by R.E.A.)



For taps from ACSR over armor rods or guy wire. Spring plate compensates for relaxation or reduction of cross-sectional area of aluminum conductor by "breathing" with the cable.

BURNDY ELECTRICAL CONNECTORS



GUTTER TAP TYPE QPR

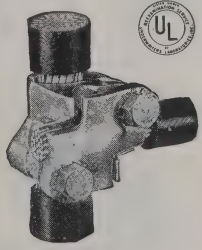
A high copper alloy gutter tap which will accommodate a range of cable sizes in either groove, thus reducing the number of sizes necessary to keep in stock. High strength Durium bolts clamp the conductors securely in place. All edges and corners are well rounded in order to provide an easily taped assembly. Dimensions available on request.

Cat. No.	Run Range: From	To	Tap Range: From	To	Shpg. Wt. Lbs. Per 100
QPR4C4C	8 Sol.	4 Str.	8 Sol.	4 Str.	40
QPR2C4C	6 Str.	2 Str.	8 Sol.	4 Str.	40
QPR2C2C	6 Str.	2 Str.	6 Str.	2 Str.	40
QPR264C	3 Str.	2/0 Str.	8 Sol.	4 Str.	54
QPR262C	3 Str.	2/0 Str.	6 Str.	2 Str.	54
QPR2626	3 Str.	2/0 Str.	3 Str.	2/0 Str.	60
QPR284C	1 Str.	4/0 Str.	8 Sol.	4 Str.	46
QPR282C	1 Str.	4/0 Str.	6 Str.	2 Str.	55
QPR2826	1 Str.	4/0 Str.	3 Str.	2/0 Str.	65
QPR2828	1 Str.	4/0 Str.	1 Str.	4/0 Str.	80
QPR314C	3/0 Str.	350 Mcm.	8 Sol.	4 Str.	65
QPR312C	3/0 Str.	350 Mcm.	6 Str.	2 Str.	65
QPR3126	3/0 Str.	350 Mcm.	3 Str.	2/0 Str.	80
QPR3128	3/0 Str.	350 Mcm.	1 Str.	4/0 Str.	90
QPR3131	3/0 Str.	350 Mcm.	3/0 Str.	350 Mcm.	120

VERSITAP—TYPE QPX

All-purpose connector for use as a Tee, Link, Cross or Parallel Clamp. Takes wide range of cables; installed with a wrench. Ten sizes accommodate from No. 6 Str. wire to 1000 Mcm. cables.

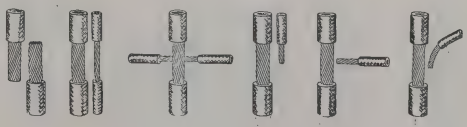
Made of high strength, high conductivity copper alloy, the Versitap consolidates the functions of a number of conductor types into one low priced device.



Cat. No.	Run Range		Tap Range		Shpg. Wt. Lbs.
QPX2C2C	6 Str.	2 Str.	6 Str.	2 Str.	.33
QPX282C	1 Str.	4/0 Str.	6 Str.	2 Str.	.37
QPX2828	1 Str.	4/0 Str.	1 Str.	4/0 Str.	.70
QPX342C	250 Mcm.	500 Mcm.	6 Str.	2 Str.	.60
QPX3428	250 Mcm.	500 Mcm.	1 Str.	4/0 Str.	.88
QPX3434	250 Mcm.	500 Mcm.	250 Mcm.	500 Mcm.	1.4
QPX442C	500 Mcm.	1000 Mcm.	6 Str.	2 Str.	.90
QPX4428	500 Mcm.	1000 Mcm.	1 Str.	4/0 Str.	1.3
QPX4434	500 Mcm.	1000 Mcm.	250 Mcm.	500 Mcm.	1.7
QPX4444	500 Mcm.	1000 Mcm.	500 Mcm.	1000 Mcm.	2.4

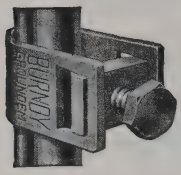
A VERSATILE CONNECTOR—EACH SIZE TAKES A WIDE RANGE OF CABLES

Can be Used as a T-Connector, Parallel Tap, Cross or End Connector



BURNDY ELECTRICAL CONNECTORS

GROUNDEM—TYPE GH

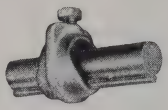


Handy, non-corrosive ground clamp for grounding to driven rod or pipe. Slip on over top of rod as one-piece assembly or from the side if head of rod has been mushroomed from driving.

Cat. No.	Electrode Size Rod	Pipe	Conductor Range Min.	Max.	Approx. Shpg. Wt. Per 100
GH63	½	¼ IPS.	8 Sol.	2 Str.	15
GH635	⅝	⅜ IPS.	8 Sol.	2/0 Str.	19
GH64	¾	½ IPS.	8 Sol.	2 Str.	28
GH65	1	¾ IPS.	8 Sol.	2 Str.	30

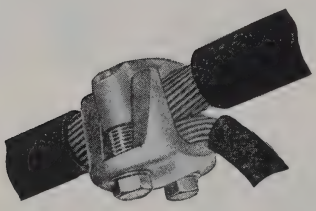
GROUND CLAMP—TYPE GKP

Sure, safe grounding with this high conductivity, non-corrosive clamp. One-piece assembly quickly connects ground wires to rod or pipe.



Cat. No.	Electrode Size Rod	Pipe	Conductor Range Max.	Min.	Approx. Shpg. Wt. Per 100
GKP622W	⅜	⅛ IPS.	8 Sol.	2 Sol.	18
GKP632W	½	¼ IPS.	8 Sol.	2 Sol.	21
GKP6352W	⅝	⅜ IPS.	8 Sol.	2 Sol.	30
GKP642W	¾	½ IPS.	8 Sol.	2 Sol.	42
GKP652W	1	¾ IPS.	8 Sol.	2 Sol.	60

OKLIP—TYPE KVS



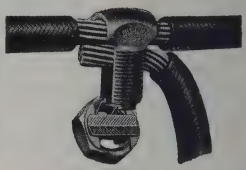
Husky connector for heavy-duty service connections. Compact design permits easy taping. Strong bolts afford high contact pressure between conductors. Made in 6 sizes. Each size accommodates two conductors of maximum diameter or one maximum conductor plus one or more smaller conductors.

Cat. No.	Conductor Range	Shpg. Wt. Lbs. Per 100
KVS26	Two 2/0 Str. cables max.	45
KVS28	Two 4/0 Str. cables max.	66
KVS31	Two 350 Mcm cables max.	110
KVS34	Two 500 Mcm cables max.	130
KVS40	Two 800 Mcm cables max.	220
KVS44	Two 1000 Mcm cables max.	330

BURNDY ELECTRICAL CONNECTORS

SERVIT—TYPE KS

Type KS
For Copper Cable or Wire



Type KSO
With Nut Retainer

Type KS designed for making service connections quickly and surely. Units for accommodating wire sizes up to and including 500 Mcm. are made of forged Durium, a high-copper alloy, which eliminates danger of corrosion and insures good contact between conductors. Each size of Servit is designed to accommodate at least two conductors of maximum diameter, but it will close down on a single maximum conductor or its equivalent.

Type KSO with nut retainer is identical in construction and materials to the Servit with the exception of the nut retainer device which prevents the nut-pressure bar assembly from dropping free when the connector is disassembled.

Nos. KS15 Thru KS28 Listed By

Cat. No. 2-Piece-Retainer Type KS	Type KSO	Maximum Conductor Size		Carton	Shpg. Wt. Lbs. Per 100
KS90	----------	10 Sol. to	12 Str.	100	2¼
KS15	----------	8 Sol. to	8 Str.	100	3¾
KS17	KS017	6 Sol. to	7 Str.	100	5¼
KS20	KS020	4 Sol. to	5 Str.	100	8
KS22	KS022	2 Sol. to	3 Str.	100	11¼
KS23	KS023	1 Sol. to	2 Str.	100	12¼
KS25	KS025	2/0 Sol. to	1/0 Str.	50	17
KS26	KS026	3/0 Sol. to	2/0 Str.	25	28
KS28	KS028	4/0 Sol. to	4/0 Str.	25	59
KS31	----------	------	350 Mcm.	12	93
KS34	----------	------	500 Mcm.	12	135
KS39	----------	------	750 Mcm.	6	200
KS44	----------	------	1000 Mcm.	6	290

BUTTIN—TYPE KP

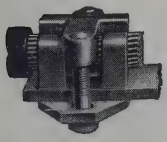
An inexpensive, efficient house service connector for attaching wires and cables on end. Durium screw forces the two conductors together. Easily installed.

The Buttin is especially useful for making connections between service drop conductors and house entrance leads. It is easy to tape and provides a secure, low-resistance joint.

Cat. No.	Maximum Conductor Size Solid	Stranded	Std. Pkg.	Shpg. Wt. Lbs. Per 100
KP6C	5	6	100	2½
KP4C	3	4	100	4¾

BURNDY ELECTRICAL CONNECTORS

CURRENT TRANSFORMER TERMINAL



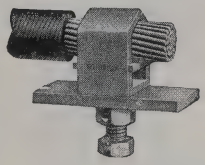
TYPE HM

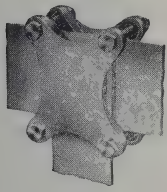
For connecting cable to current transformer terminal bars. One size takes a range of cable and bar sizes. Installed by tightening two Durium bolts.

CURRENT TRANSFORMER TERMINAL

TYPE KPF

A rigid current transformer terminal, for economically connecting a range of cable sizes to the various-sized bar terminals on current transformers. Permits cable tap-off at any angle in a plane parallel to the transformer lead.

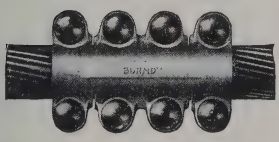




H-CLAMP—TYPE HF

A 4-bolt clamp for flat bar. Made of bronze for outdoor service; half bronze and half galvanized malleable iron for AC service indoors; galvanized malleable iron for DC service indoors. All sizes.

COUPLER—TYPE NS



A heavy duty Multigrip type connector for joining all sizes of cables or tubes, end to end. Oval shank bolts make only one wrench necessary for installation.

FLEXIBLE COPPER BRAID—TYPE B

Made up of extra flexible flat, tinned copper braid with seamless copper ferrules at each end. Bolt holes drilled $\frac{13}{32}$-inch unless otherwise specified. Can be supplied with three or more braids in one ferrule, if desired. Overall length, 12 inches.

Cat. No.	Capacity in Amps. Indoors	Cat. No.	Capacity in Amps. Indoors
BD12	190	**BF12**	360
B2D12	330	**B2F12**	600
BE12	340	**BG12**	415
B2E12	530	**B2G12**	700

BURNDY ELECTRICAL CONNECTORS

UNIVERSAL CLAMP—TYPE UC

A universal clamp which accommodates a large range of cables and wires in either groove. Information on sizes not listed, sent on request.

Cat. No.	Cable Range Either Groove	Bolts	Shpg. Wt. Lbs.
UC6W25	6 Sol. to 1/0 Str.	1	.50
UC4W28	4 Sol. to 4/0 Str.	2	.75
UC2W30	2 Sol. to 300 Mcm.	2	1.3
UC2834	4/0 Str. to 500 Mcm.	3	3.5
UC3040	300 Mcm. to 800 Mcm.	3	4.2
UC3434	500 Mcm. to 1000 Mcm.	3	5.0

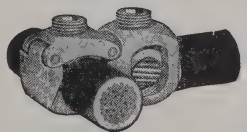
PARALLEL CLAMP—TYPE CP

A parallel clamp for heavy duty in a variety of uses. Installed with single wrench setting. Ample contact surface and pressure prevent over-heating, even under overload.

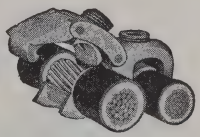
O.Z. SOLDERLESS CONNECTORS

COMBINATION TEE AND PARALLEL TAPS

Type "XTP"



As "T" Tap

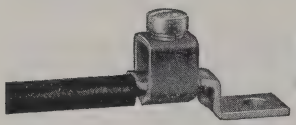


As Parallel Tap

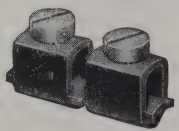
Connector Range Main	Connector Range Tap	Cat. No.	Price Each
No. 4 to 1/0	No. 8 to No. 4	**XTP2104**	**$ 1.20**
	4 to 1/0	**XTP2121**	**1.45**
1/0 to 4/0	8 to 4	**XTP2040**	**1.30**
	4 to 1/0	**XTP2421**	**1.55**
	1/0 to 4/0	**XTP2424**	**1.95**
4/0 to 300 Mcm	8 to 4	**XTP3004**	**1.45**
	4 to 1/0	**XTP3021**	**1.75**
	1/0 to 4/0	**XTP3024**	**2.15**
	4/0 to 3000 Mcm	**XTP3030**	**2.40**
300 Mcm to 500 Mcm	8 to 4	**XTP5004**	**2.40**
	4 to 1/0	**XTP5021**	**2.75**
	1/0 to 4/0	**XTP5024**	**3.15**
	4/0 to 300 Mcm	**XTP5030**	**3.35**
	300 Mcm to 500 Mcm	**XTP5050**	**4.15**
500 Mcm to 750 Mcm	4 to 1/0	**XTP7521**	**4.00**
	1/0 to 4/0	**XTP7524**	**4.40**
	4/0 to 300 Mcm	**XTP7530**	**4.65**
	300 Mcm to 500 Mcm	**XTP7550**	**5.60**
	500 Mcm to 750 Mcm	**XTP7575**	**6.90**
750 Mcm to 1000 Mcm	4 to 1/0	**XTP9221**	**4.80**
	1/0 to 4/0	**XTP9224**	**5.20**
	4/0 to 300 Mcm	**XTP9230**	**5.60**
	300 Mcm to 500 Mcm	**XTP9250**	**6.75**
	500 Mcm to 750 Mcm	**XTP9275**	**8.80**
	750 Mcm to 1000 Mcm	**XTP9292**	**9.60**

G-E PRESSURE TERMINALS AND PRESSURE CONNECTORS

Easy to install — simply attach wire and tighten. No special tools required — screw driver or pliers are sufficient. Adaptable — will accommodate large variety of wire sizes. Excellent electrical conductivity — made of pure copper. Triangle clamping arrangement assures good solderless electrical connection for solid or stranded wire.



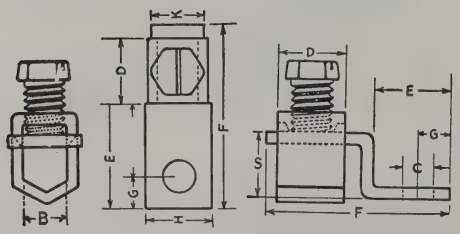
GE3239



GE3248

Cat. No.	Rating Amp.	Max. Wire Size	Min. Wire Size	Std. Pkg.	Carton
		Pressure Terminals			
GE3238	35	8 Awg	14 Awg	500	250
GE3239	70	2	8	400	200
GE3240	125	0	2	400	100
GE3241	225	0000	00	100	25
GE3242	400	500MCM	250MCM	50	10
		Pressure Connectors			
GE3248	35	6 Awg	14 Awg	500	250
GE3249	70	2	8	500	125
GE3250	125	0	2	300	50
GE3251	225	0000	00	100	25
GE3252	400	500MCM	250MCM	50	5

Dimensional Data

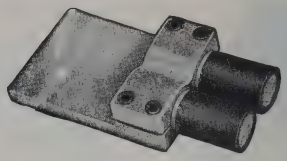


In Inches

Cat. No.	B	C	D	E	F	G	H	K	S
GE3238	7/32	13/64	7/16	1/2	1 3/16	7/32	3/8	1/4	A 1/16
GE3239	5/16	17/64	1/2	11/16	1 17/32	1/4	1/2	13/32	7/16
GE3240	13/32	17/64	5/8	7/8	1 13/16	7/16	5/8	33/64	23/32
GE3241	1/2	11/32	1	1 3/32	2 5/8	1/2	1	33/32	33/32
GE3242	7/8	13/32	1 1/2	1 15/16	4 11/32	15/16	1 1/2	1 1/16	1 11/32

O. Z. SOLDERLESS CONNECTORS

SOLDERLESS TWO WIRE LUGS



Lugs are finished on one side only. For machining on both sides add 20%. They are available for use with Type "HC" Bus Bar Clamps.

Cable Size No.	Cat. No.	Price Each	Dimensions in Inches* B	C	H
1	LM0100	$1.45	1 1/16	1 1/2	2 3/8
1	LM0122	1.75	2	2 5/8	3 3/8
1/0	LM2100	1.75	1 7/8	2	2 7/8
1/0	LM2122	2.10	2	2 5/8	3 3/8
2/0	LM2200	2.10	1 7/8	2	2 7/8
2/0	LM2222	2.50	2	2 5/8	3 1/2
2/0	LM2232	2.75	2	3 5/8	4 1/2
3/0	LM2300	2.75	2 1/8	2	3
3/0	LM2322	3.30	2	2 5/8	3 5/8
3/0	LM2332	3.55	2	3 5/8	4 5/8
3/0	LM2301	3.85	3	3	4
4/0	LM2400	2.75	2 1/8	2	3
4/0	LM2422	3.30	2	2 5/8	3 5/8
4/0	LM2432	3.55	2	3 5/8	4 5/8
4/0	LM2401	3.85	3	3	4
250 Mcm	LM2500	3.35	2 3/8	2 1/2	3 5/8
250 Mcm	LM2523	4.10	3	2 5/8	3 3/4
250 Mcm	LM2533	4.40	3	3 3/4	4 7/8
300 Mcm	LM3000	3.35	2 3/8	2 1/2	3 5/8
300 Mcm	LM3023	4.10	3	2 5/8	3 3/4
300 Mcm	LM3033	4.40	3	3 3/4	4 7/8
350 Mcm	LM3500	4.50	2 1/2	2 1/2	3 3/4
350 Mcm	LM3523	5.40	3	2 5/8	3 7/8
350 Mcm	LM3533	5.85	3	3 3/4	5
350 Mcm	LM3543	6.35	3	4 3/4	6
400 Mcm	LM4000	4.50	2 3/4	2 3/4	4
400 Mcm	LM4023	5.40	3	2 5/8	3 7/8
400 Mcm	LM4033	5.85	3	3 3/4	5
400 Mcm	LM4043	6.35	3	4 3/4	6
500 Mcm	LM5000	5.30	3	3	4 3/8
500 Mcm	LM5023	6.35	3	2 5/8	4
500 Mcm	LM5033	6.90	3	3 3/4	5 1/8
500 Mcm	LM5043	7.45	3	4 3/4	6 1/8
500 Mcm	LM5001	7.45	4	4	5 3/8
500 Mcm	LM5044	8.00	4	4 3/4	6 1/4
600 Mcm	LM6000	6.40	3 1/4	3 1/4	4 7/8
600 Mcm	LM6023	7.70	3	2 5/8	4 1/4
600 Mcm	LM6033	8.35	3	3 3/4	5 3/8
600 Mcm	LM6043	8.95	3	4 3/4	6 3/8
600 Mcm	LM6001	8.95	4	4	5 1/2
600 Mcm	LM6044	9.60	4	4 3/4	6 3/8
700 Mcm	LM7000	8.00	3 3/8	3 3/8	5 1/8
700 Mcm	LM7024	9.60	4	2 5/8	4 3/8
700 Mcm	LM7034	10.40	4	3 3/4	5 1/2
700 Mcm	LM7044	11.20	4	4 3/4	6 1/2
750 Mcm	LM7500	8.00	3 3/4	3 3/4	5 5/8
750 Mcm	LM7524	9.60	4	2 5/8	4 1/2
750 Mcm	LM7534	10.40	4	3 3/4	5 5/8
750 Mcm	LM7544	11.20	4	4 3/4	6 5/8
800 Mcm	LM8000	8.00	3 3/4	3 3/4	5 5/8
800 Mcm	LM8024	9.60	4	2 5/8	4 1/2
800 Mcm	LM8034	10.40	4	3 3/4	5 5/8
800 Mcm	LM8044	11.20	4	4 3/4	6 5/8
1000 Mcm	LM9200	10.25	4	4	6 1/8
1000 Mcm	LM9234	12.35	4	3 3/4	6 1/8
1000 Mcm	LM9244	13.30	4	4 3/4	6 7/8
1000 Mcm	LM9254	14.35	4	5 3/4	7 7/8

*B=width. C=length contact. H=overall lgth.

MATTHEWS CABLE CLAMPS

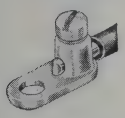
For Use On Power Cable Only

Designed to relieve the strain from cable ranging in size from 000 to 1500000 CM at corners and dead ends, and to do away with the expense of splices at these places and the cost of making up into strain insulators, etc.

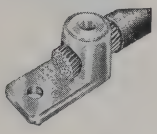
Cat. No.	Description	Wt. Lbs. Per 100	Price Per 100
2	For D.C. Cable (galv.).....	400	**$198.00**
3	For A.C. Cable (galv.).....	400	**253.00**

No. 3 furnished with 2 bronze bolts and nuts for A.C. cables.

BLACKBURN SOLDERLESS LUGS



Listed by Underwriters



Economical—in lowest price range. Sturdy construction, yet small and compact. Will often fit in a limited space where other lugs are too large for use. Made in one integral piece. Makes efficient, trouble-free terminal connection. Wires are easy to insert in lugs. Exclusive helical serrations in larger sizes greatly increase gripping action on cable. Only six sizes cover a range from #14 to 1000 MCM.

Cat. No.	Ampere Rating	Wire Range
L35	35	14 Sol.—8 Str.
L70	70	14 Sol.—4 Str.
L125	125	4 Str.—1/0 Str.
L225	225	1/0 Str.—4/0 Str.
L400	400	4/0 Str.—500 MCM
L650	650	600 MCM—1000 MCM

BLACKBURN BUILDING WIRE CONNECTORS

For Indoor Use

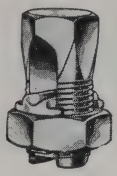
Listed by Underwriters

Inexpensive, yet highly efficient—fully approved by Underwriters. Ideal for connecting motor leads, light fixtures, or use in junction, switch and outlet boxes. Changes in wiring may be made without clipping the wires. Built-in spring bronze washer will not allow set screw to injure the wires. Installed with screwdriver or pliers — no special tools required.

Cat. No.	Max. Wire Combinations	Min. Wire Combinations	Std. Pkg.
10U	Two #10 Sol. Three #12 Sol. Four #14 Sol.	Two #14 Sol.	100
6U	Two #6 Str. Three #8 Sol.	Two #8 Sol.	100
4U	Two #4 Str.	Two #6 Str.	100

PENN-UNION COPPER SERVICE CONNECTORS

POWER AND SERVICE ENTRANCE TYPES



An electrical and mechanical solderless connection for making solderless line taps, on primary, secondary, service and transformer lines.

Power Type

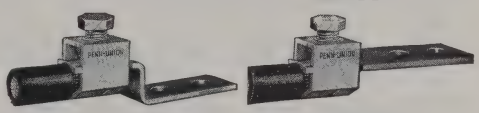
No. Cat.	Copper Solid	Copper Stranded	Type A Copperweld	Pkg. Std.	Shpg. Per 1000 Wt. Lbs.
***S-10-S**	10	10	.....	100	3
***S-8-S**	8	8	.....	100	4
SEL-8-S	8	8	.....	100	4
***S-6-S**	6	8	8 A	100	7
SEL-6-S	6	8	8 A	100	7
***S-4-S**	4	6	6 A	100	9
SEL-4-S	4	6	6 A	100	9
***S-3-S**	2	4	4 A	100	11
SEL-3-S	2	4	4 A	100	11
***S-2-S**	1	2	.....	100	14
SEL-2-S	1	2	.....	100	15
***S-1/0-S**	....	1/0	2 A	50	20
***S-2-S**	....	2/0	.....	25	25
***S-3-S**	....	3/0	.....	25	35
***S-4-S**	....	4/0	.....	25	45
***S-250-S**	....	250 MCM	.....	25	50
S-350-S	....	350 MCM	.....	1	75
S-500-S	....	500 MCM	.....	1	100
S-750-S	....	750 MCM	.....	1	150
S-1000-S	....	1000 MCM	.....	1	300
		Service Entrance Type			
SX-12	....	12	.....	200	1
SX-10-8	....	10–8	.....	100	2
SX-6	....	6	.....	100	3
SX-4	....	4	.....	100	4
SX-2	....	2	.....	100	6

*Underwriters' Laboratories Approved.

Prices on request.

PENN-UNION SOLDERLESS LUGS

TWO-HOLE SINGLE-COLLAR TYPE



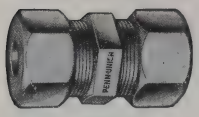
The two-hole tangs prevent lugs from turning. Once mounted straight they stay straight. Like Single-Hole Double-Collar Solderless Lugs, these have the same characteristics and merits as standard solderless lugs, plus extra features.

Offset-Tang Type

Cat. No.	Amp. Rating	Max. Wire	Min. Wire	Wt. Lbs. Per 1000	Price Per 1000
E- 35	35	6	14	37	**$121.90**
E- 70	70	2	8	67	**182.40**
E-125	125	0	2	162	**303.60**
E-225	225	0000	00	380	**849.60**
E-400	400	500 Mcm	250 Mcm	1222	**2632.55**
E-650	650	1000 Mcm	600 Mcm	2472	**4987.90**
		Straight-Tang Type			
H- 35	35	6	14	32	**121.90**
H- 70	70	2	8	58	**182.40**
H-125	125	0	2	137	**303.60**
H-225	225	0000	00	305	**849.60**
H-400	400	500 Mcm	250 Mcm	980	**2632.55**
H-650	650	1000 Mcm	600 Mcm	2056	**4987.90**

PENN-UNION CONNECTORS AND LUGS

TYPE BM — 2-WAY CONNECTORS



Cat. No.	Cable Size	Price Each
19000	6	$0.40
19009	4/0	1.10
19010	250,000	1.35
19015	500,000	2.35
19020	750,000	3.00
19024	1,000,000	4.25
19028	2,000,000	7.50

TYPE CM — 3-WAY CONNECTORS

Cat. No.	Cable Size	Price Each
25000	6	$0.60
25009	4/0	1.60
25010	250,000	2.00
25015	500,000	3.50
25020	750,000	4.50
25024	1,000,000	6.30
25028	2,000,000	11.20

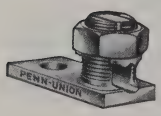
TYPE LM — ELBOW

Cat. No.	Cable Size	Price Each
40000	6	$0.40
40009	4/0	1.10
40010	250,000	1.35
40015	500,000	2.35
40020	750,000	3.00
40024	1,000,000	4.25
40028	2,000,000	7.50

TYPE FE TERMINAL LUGS

Cat. No.	Cable Size	Price Each	Cat. No.	Cable Size	Price Each
14467	6	$0.35	13734	750,000	$3.20
14490	4/0	.90	13746	1,000,000	3.70
14493	250,000	1.10	13766	2,000,000	6.70
14508	500,000	1.70	----------	----------	--------

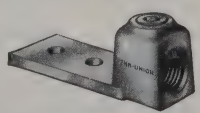
TERMINAL LUGS—TYPE ZE



Cat. No.	Cable Range From	Cable Range To	Price Each
ZE-1	14	6	$0.20
ZE-8	8	3	.35
ZE-16	4	1/0	.45
ZE-18	4	2/0	.55
ZE-24	6	4/0	.75
ZE-28	2	250,000	.95
ZE-41	250,000	500,000	1.45
ZE-46	350,000	750,000	2.30
ZE-48	500,000	1,000,000	2.80

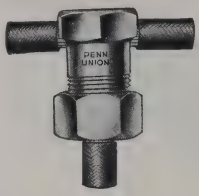
VI-TITE TERMINAL LUGS

Cat. No.	Cable Range From	Cable Range To	Price Each
21761	8	6	$0.40
21764	4	1	.50
21767	2	1/0	.65
21773	1/0	4/0	.85
21779	3/0	300 M	1.05
21784	300 M	500 M	1.55
21789	500 M	800 M	2.50
21794	700 M	1000 M	3.20



PENN-UNION CONNECTORS AND TAPS

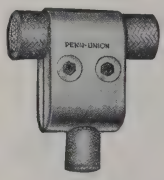
TYPE SM TEE CONNECTORS — SOLDERLESS



A permanent mechanical and electrical connection. When ordering, specify size of main and branch, whether solid or stranded.

Cat. No.	Cable Size Run	Cable Size Tap	Price Each
15000	6	6	$0.70
15269	4/0	4/0	1.50
15279	250,000	250,000	1.80
15344	500,000	500,000	3.00

TYPE PC-90 CABLE TAPS



With Cover

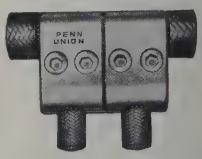
Can be furnished with moulded bakelite cover, at slight extra charge.

1-Tap

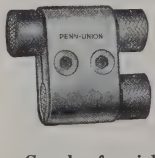
Cat. No.	Cable Size Run	Cable Size Tap	Price Each
11186	6	6	$0.50
11276	4/0	4/0	.90
11290	250,000	4/0	1.00
11376	500,000	4/0	1.35
11458	750,000	4/0	1.80
11591	1,000,000	4/0	2.10

TYPE PC-90 2-TAP CABLE TAPS

Prices and complete information upon request.



TYPE PCT PARALLEL CABLE TAPS



With Cover

Can be furnished with moulded bakelite cover, at slight extra charge.

2-Way

Cat. No.	Cable Size	Price Each	Cat. No.	Cable Size	Price Each
10014	6	$0.50	10209	500,000	$1.60
10104	4/0	.90	10323	750,000	2.55
10119	250,000	1.20	10433	1,000,000	3.70

TYPE PCT PARALLEL 3-WAY CABLE TAPS

Prices and complete information upon request.

SHERMAN SOLDERING LUGS

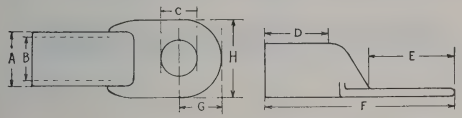
Lugs are seamless all around. The solder cannot leak out at the closed end. Also better conductivity is secured. Round end lugs in small sizes are recommended.

Approved by Underwriters' Laboratories.

1-Hole

Size Inches	Amp. Cap. Rubber Ins. Conductors N.E.C. Std.	Maximum Stranded Wire B. & S. Gauge	Carton Qty.	Approx. Weight Pounds per 1000
3/16	25	10	250	4
1/4	35	8	200	6
5/16	50	6	200	11
3/8	70	4	125	17
7/16	90	2	100	24
1/2	125	0	100	35
9/16	150	00	100	46
5/8	175	000	100	60
11/16	225	0000	50	80
13/16	250	*250000	25	120
15/16	325	*400000	Bulk	225
1	362	*450000	Bulk	285
1 1/16	400	*500000	Bulk	380
1 1/8	450	*600000	Bulk	420
1 5/16	550	*800000	Bulk	705
1 7/16	650	*1000000	Bulk	788
1 3/4	850	*1500000	Bulk	1470
2 1/16	1050	*2000000	Bulk	2765
2 7/8	1200	*3500000	Bulk	2765

Approximate Dimensions, Inches



A	B	C	D	E	F	G	H
3/16	.136	11/64	3/8	15/32	15/16	7/32	17/64
1/4	.186	13/64	7/8	1/2	1 3/32	7/32	3/8
5/16	.232	13/64	3/8	19/32	1 7/32	1/4	7/16
3/8	.286	9/32	7/16	11/16	1 11/32	9/32	17/32
7/16	.336	9/32	1/2	3/4	1 1/2	11/32	5/8
1/2	.407	11/32	5/8	13/16	1 3/4	13/32	3/4
9/16	.461	11/32	11/16	15/16	2	7/16	13/16
5/8	.511	13/32	25/32	1	2 1/8	1/2	29/32
11/16	.559	13/32	27/32	1 5/32	2 9/32	17/32	1 1/64
13/16	.688	13/32	31/32	1 1/4	2 5/8	5/8	1 5/16
15/16	.776	13/32	1 9/16	1 5/8	3 3/8	3/4	1 13/32
1	.82	13/32	1 1/4	1 3/4	3 7/16	13/16	1 1/2
1 1/16	.88	13/32	1 1/2	2 1/8	4 1/16	13/16	1 9/16
1 1/8	.943	13/32	1 5/8	2 1/4	4 7/16	1	1 11/16
1 5/16	1.084	17/32	2	2 1/2	5	1 1/8	1 13/16
1 7/16	1.210	29/32	2	2 1/2	5 3/8	1 3/8	2 1/8
1 1/4	1.460	1 1/32	2 3/8	3 1/8	6 5/8	1 7/16	2 5/8
2 1/16	1.660	1 1/32	2 5/8	3 5/8	7 1/2	1 5/8	3 1/16
2 7/8	2.500	1 1/32	------	4 1/4	10 3/4	1 3/4	4 1/2

*Circular mils. Sizes 1/4 to 13/16-inch furnished round end, unless otherwise specified. Sizes 15/16-inch and 1 1/16-inch and larger, furnished square end unless otherwise specified.

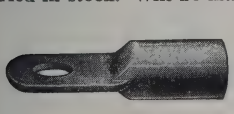
STUD HOLE—Lugs furnished with special size or location of stud holes at same prices as for regular lugs, with extra charge for each size.

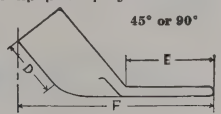
TINNING—Lugs tinned will be furnished at extra charge, depending on size.

MARKING—For identification, as approved fittings, lugs will be marked with letter S and Underwriters' rating in amperes, placed crosswise of the flat portion at wire end.

Center Formed and Angle Lugs

These types are standard but not regularly carried in stock. Will be made up promptly to order.



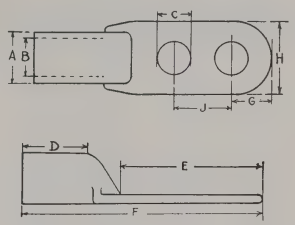


SHERMAN SOLDERING LUGS

2-HOLE

Two-hole lugs are made from seamless tubing and furnished square end, unless otherwise specified.

Flat portion (E) may be made to order either longer or shorter but tubular portion (D) cannot be changed.



Approximate Dimensions, Inches

Size Ins.	Amp. Cap. Rubber Insl. Conductors N.E.C. Std.	Approx. Dimen., Inches C	E	F	G	J	Approx. Weight Pounds Per 1000
3/16	25	5/32	3/4	1 7/32	5/32	3/8	5
1/4	35	3/16	7/8	1 13/32	3/16	7/16	8
5/16	50	7/32	1 1/16	1 3/4	1/4	1/2	14
3/8	70	1/4	1 1/4	1 29/32	5/16	5/8	23
7/16	90	9/32	1 3/8	2 1/4	5/16	11/16	34
1/2	125	11/32	1 11/16	2 5/8	3/8	7/8	46
9/16	150	13/32	2	3 1/16	7/16	1	68
5/8	175	13/32	2	3 1/8	7/16	1	90
11/16	225	13/32	2 1/8	3 1/4	1/2	1	115
13/16	250	17/32	2 5/8	4	5/8	1 1/4	218
15/16	325	17/32	2 3/4	4 1/2	11/16	1 1/4	270
1 1/16	400	21/32	3 1/4	5 3/16	13/16	1 1/2	420
1 1/8	450	21/32	3 3/8	5 9/16	7/8	1 1/2	475
1 5/16	550	25/32	3 13/16	6 7/16	1	1 13/16	845
1 7/16	650	29/32	4 3/8	7 1/4	1 1/8	2	1030
1 3/4	850	1 1/32	5 1/8	8 5/8	1 3/8	2 1/4	1850
2 1/16	1050	1 1/32	5 3/8	9 1/4	1 1/2	2 1/4	3200

Dimensions, except as noted, are the same as standard side formed Lugs.

General

At increased cost over standard lugs special features can be obtained as follows:

Stud Holes of special size or location.

Lengths, longer or shorter or special "E."

Annealing to permit bending.

Cadmium Plated, Rosin Dipping or Tinned all over.

Rosin Dipped or Tinned inside only.

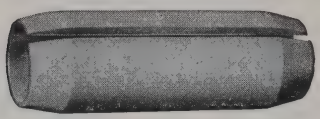
Bright Dipped or Etched Finish.

Welding Lugs—Have special hole in tongue end of socket.

Solderless Lugs.

Prices on application.

RELIABLE SPLIT TINNED COPPER CABLE SLEEVES

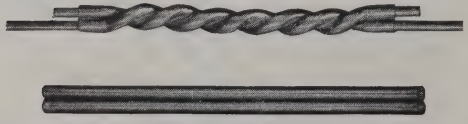


Conform to Specifications of E.E.I., TD-8, 1940.

Cat. No.	AWG Wire Size Strand	Solid	Lgth. Ins.	Std. Pkg.	Shpg. Wt. Lbs. Per M	Price Per 100
SC10	....	12	1½	500	5	$3.82
SC11	12	10	1½	300	5	5.22
SC12	10	9	1½	200	5½	5.49
SC13	9	8	1½	200	6	5.78
SC14	8	7	1½	200	6½	6.37
SC15	7	6	1½	200	8	6.93
SC16	6	5	1½	150	12	7.62
SC17	5	4	1½	125	15	8.32
SC18	4	3	2	100	20	8.83
SC19	3	2	2	100	25	9.28
SC20	2	1	2	100	35	10.02
SC21	1		2	100	40	11.26
SC22	1/0		2	100	50	18.49
SC23	2/0		2	100	65	19.63
SC24	3/0		2	75	85	22.83
SC25	4/0		2½	50	125	26.28
SC26	250MCM		2½	50	150	30.44
SC27	300MCM		2½	20	180	33.11
SC28	350MCM		2½	20	210	37.37
SC29	400MCM		3	10	280	49.17
SC30	450MCM		3	10	320	50.11
SC31	500MCM		3	10	340	51.03
SC32	550MCM		3	10	410	64.25
SC33	600MCM		3½	10	500	80.85
SC34	650MCM		3½	10	520	88.09
SC35	700MCM		3½	10	540	91.45
SC36	750MCM		3½	10	580	92.47
SC37	800MCM		4	Bulk	620	103.82
SC38	850MCM		4	Bulk	690	114.76
SC39	900MCM		4	Bulk	750	124.04
SC40	950MCM		4	Bulk	840	135.45
SC41	1000MCM		4½	Bulk	1030	143.64
SC42	1250MCM		4½	Bulk	1200	209.12
SC43	1500MCM		5	Bulk	1650	254.97
SC44	1750MCM		5½	Bulk	2100	317.79
SC45	2000MCM		6	Bulk	2725	428.65
SC46	2500MCM		6½	Bulk	3300	524.08

RELIABLE SPLICING SLEEVES

DOUBLE TUBE TINNED STEEL SLEEVES

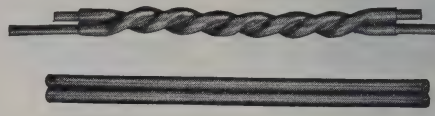


Cat. No.	BWG Solid	Length Inches	Std. Pkg.	Shpg. Wt. Lbs. Per 100	Price Per 100
S831	14	4½	100	3	$4.98
S832	12	4¾	100	3.5	5.33
S833	10	5½	100	5.5	6.47
S834	9	5¾	100	6	9.18

Half length steel sleeves—less 20%. Add "H" to catalog number.

RELIABLE SPLICING SLEEVES

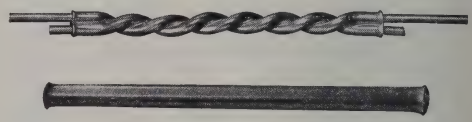
DOUBLE TUBE COPPER SLEEVES



Cat. No.	Max. Wire Size AWG Solid	AWG 7-Strand	BWG NBS Solid	Length Inches	Std. Pkg.	Shpg. Wt. Lbs. per 100	Price Per 100
S810	17	..	....	4	100	1.5	$3.86
S811	16	..	....	4	100	1.8	3.91
S812	14	..	16	4	100	2	4.06
S813	12	..	14	4½	100	2.3	4.24
S814	10	..	12	4¾	100	3	4.93
S815	9	..	11	5¼	100	5	7.40
S816	8	..	10	5¾	100	6	8.62
S817	7	8	9	5¾	100	8.5	9.51
S818	6	..	8	6¾	100	10	10.56
S820	4	5	6	6¾	100	13	16.96

SINGLE TUBE SEAMLESS COPPER SLEEVES

Grooved Oval Type



Conform to Specifications E.E.I., TD-9, 1942.

Cat. No.	Max. Wire Size AWG Solid Copper	AWG 7 or 19 Strand Copper	Copperweld Strand	*BWG Solid & Steel Str.	Lgth. Ins.	Std. Pkg.	Price Per 100
S011	10	.....	.....	12	4	100	$ 4.66
S011	9	.....	.....	11	5	100	6.99
S012	8	.....	.....	10	5	100	8.15
S013	6	.....	.....	8	6	100	9.98
S026	5	6	8C 9½ D. 3 #12	....	6¾	100	13.80
S014	4	5	8A	6	7½	100	18.13
S015	3	4	7A, 6A 3 #10	....	8½	50	21.29
S016	2	3	5A 3 #8, 3 #9	¼	9¾	50	28.11
S017	1	2	4A 3 #7	5/16	11	50	35.92
S018	1/0	1	3A 3 #6	3/8	12½	50	50.57
S019	2/0	1/0	2A 3 #5	3/8	14	25	63.87
S020	3/0	2/0	.....	7/16	16	20	89.15
S021	4/0	3/0	.....	½	18	10	136.88
S022	.....	4/0	.....	....	19½	10	147.52
S023	.....	250MCM	.....	....	21	10	174.30
S024	.....	300MCM	.....	....	21¾	5	209.89
S025	.....	500MCM	.....	....	24	5	367.57

*Tinned Copper Sleeves for Galvanized Steel Wire and Strand—Add "T" to Catalog No.

SINGLE TUBE SEAMLESS TINNED COPPER SLEEVES

3-Strand Steel Wires

Cat. No.	Max. Wire Size Amerductor SCG or SCP	BWG Solid Steel	BWG 3-conductor Steel	Length Inches	Std. Pkg.	Shpg. Wt.Lbs. per 100	Price Per 100
S030	8 & 12	6	8	8¾	50	19	$21.45
S031	8X	..	..	11	50	33½	33.67
S032	6	4	6	11¾	50	30	35.10
S033	4	..	4	13	50	55	60.45

For splicing following type conductors: Amerductor SCG or SCP; Amersteel Type 3S; Crapo HTC-130; Ruralductor R3-A.

RELIABLE STRAIGHTLINE SPLICES

For Copper Wire and Copperweld Wires

Sectional View

Cat. No.	Max. Wire Size AWG Solid	7 or 19 Strand	3 Strand	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
61	6	8	..	50	20	$41.80
41	4	6	6	50	24	53.25
47	3	4	3#10	50	36	62.65
21	2&3	3	4	50	36	62.65
27	1	2	3	25	36	75.35
101	1/0	1	2	25	50	89.45
107	2/0	1/0	1	25	54	98.85
207	3/0	2/0	1/0	25	70	113.00
307	4/0	3/0	..	25	82	141.20
407	.....	4/0	..	25	130	167.55
250	.....	4/0-12 Str. / 250MCM	--	20	135	185.45

For Copperweld Wires Type A

Cat. No.	Copperweld Type A	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
8A	8A	25	48	$84.45
6A	7A or 6A (3 #9 / 3 #10)	25	64	96.05
4A	4A 3 #8	25	74	110.60

For Amerductor or Anaconda Composite Conductor Plated Splices

Cat. No.	Max. Wire Size Amerductor SCP-SCG	Anaconda	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
12AM	12	.....	25	30	$76.30
8AM	8	.....	25	34	80.40
6AM	10, 8X&6	631	25	36	88.95
4AM	4	477	25	40	100.40
81RSC	(Solid Steel)		25	12	93.00

RELIABLE STRAIGHTLINE REDUCER SPLICES

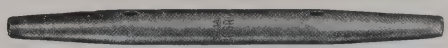
Cat. No.	Wire Size AWG Large End Sol. 7 or 19 Str.	Small End Sol. 7 or 19 Str.	Wt. Lbs. Per 100	Price Per 100
4161	4 6	6 8	24	$58.60
2161	2&3 3&4	6 8	25	68.90
2141	2&3 3&4	4 6	36	68.90
2761	1 2	6 8	30	82.85
2741	1 2	4 6	34	82.85
2721	1 2	2&3 3&4	40	82.85
10121	1/0 1	2&3 3&4	40	98.40
10127	1/0 1	1 2	41	98.40
10721	2/0 1/0	2&3 3&4	43	108.80
10727	2/0 1/0	1 2	44	108.80
10741	2/0 1/0	4 6	56	108.80
107101	2/0 1/0	1/0 1	63	108.80
20721	3/0 2/0	2&3 3&4	64	124.30
20727	3/0 2/0	1 2	65	124.30
207101	3/0 2/0	1/0 1	66	124.30
207107	3/0 2/0	2/0 1/0	72	124.30
307207	4/0 3/0	3/0 2/0	80	155.35
407107	..... 4/0	2/0 1/0	85	184.30
407207	..... 4/0	3/0 2/0	90	184.30
407307	..... 4/0	4/0 3/0	106	184.30
250407	..... 250MCM	..... 4/0	151	204.00

For Type A Copperweld Combinations

	Large End	Small End			
6A8A	7A or 6A	.. 8A	60		105.65
6A27	7A or 6A	1 2	50		105.65

RELIABLE STRAIGHTLINE SPLICES

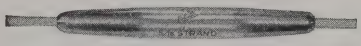
For ACSR (Aluminum Cable, Steel Reinforced)



Cat. No.	ACSR Size	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
271	2 ACSR 7/1	25	83	$135.30
261	2 ACSR 6/1	25	83	135.30
471	4 ACSR 7/1	25	53	123.50
461	4 ACSR 6/1	25	53	123.50

RELIABLE CONSTRUCTION STRANDLINKS

For Splicing Steel Strand Messenger and Static Wire

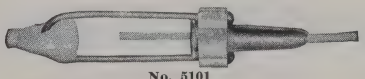


All grades and tensile ratings.

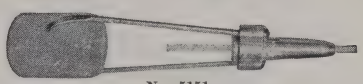
Cat. No.	Strand Size Inch	Wt.Lbs. Per 100	Price Per 100
5001	5/16	65	$121.00
5002	3/8	85	130.50

RELIABLE CONSTRUCTION STRANDVISES

For Deadending Steel Strand, Guy, Messenger and Static Wire



No. 5101



No. 5151

Cat. No.	Strand Size Inch	Description	Shpg. Wt.Lbs. Per 100	Price Per 100
5101	5/16	Short bail for all Std. Hardware Eyes	85	$124.00
5151	5/16	Long bail for all Std. Porcelain Insulators ..	105	147.00
5102	3/8	Short bail for all Std. Hardware Eyes	110	165.00
5152	3/8	Long bail for all Std. Porcelain Insulators ..	130	179.00
9053	....	Pulling Hook for use with all Strandvises....	.....	.90

RELIABLE STRAIGHTLINE SPLICE ADAPTERS

DOUBLE "D" TYPE

For Deadening Copper Wire on Spool or Strain Insulators

"D" shaped tips of a loop of hard wire are positively gripped by the extremely hard cold forged jaws. A collar holds the interlocking tips in position for insertion into splice and prevents the loop from spreading.

Cat. No.	Max. Wire Size AWG Solid	7, 19 or 37 Strand	3 Strand	Bail Lgth. Ins.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
61DD	6	8	..	5¾	50	7	$13.80
41DD	4	6	6	5⅞	50	11¼	15.90
21DD	2 & 3	3 & 4	4	6	50	18¼	20.05

NATIONAL *Nicopress* SPLICING SLEEVES

FOR TELEPHONE, TELEGRAPH AND SIGNAL LINE WIRES

The National Nicopress compression method of splicing communication and signal service line wires is most practical, efficient and economical.

With Nicopress sleeves and tools, any lineman whether working on the ground or in the air, will quickly and easily make strong, tight, neat splices, that will give long trouble-free service.

In making a Nicopress splice the sleeves, which are lined with a metal alloy, harder than the metal of either sleeve or conductor, are pressed onto the conductors, with the special Nicopress tool, and the hard alloy is forced into the softer metals of sleeve and conductor, forming a tight bond. The resultant joint, in every instance, has a strength that is equal to or greater than the rated breaking strength of the conductor, and is so tight that the conductors cannot pull out.

Nicopress Sleeve

Completed Nicopress Splice

FOR HARD DRAWN COPPER WIRE

Copper Sleeves

Gauge B & S	Gauge NBS	For Use in Tool Groove	Stock No.	Approx. Shpg. Wt. Lbs. Per 100
12	14	C	1-080 C	1½
*12	14	D	1-080 D	1½
10	12	C	1-102 C	1½
*10	12	D	1-102 D	1½
*10	12	E	1-102 E	2
9	11	D	1-114 D	1½
* 9	11	E	1-114 E	2
8	10	E	1-128 E	2
* 8	10	J	1-128 J	4
6	8	J	1-162 J	5

*Larger diameter sleeve than standard for use in the larger tool-groove.

FOR BB GALVANIZED WIRE

Galvanized Steel Sleeves

Gauge BWG	For Use in Tool Groove	Stock No.	Approx. Shpg. Wt. Lbs. Per 100
14	C	5-083 C	2
12	C	5-109 C	1½
	Galvanized Copper Sleeves		
14	C	2-083 C	1½
14	D	2-083 D	1½
12	D	2-109 D	1½
10	J	2-134 J	3
9	J	2-148 J	3½
8	J	2-165 J	5
	Galvanized Bronze Sleeve		
12	C	4-109 C	1½

NATIONAL *Nicopress* SLEEVES

FOR "85" GALVANIZED WIRE

Galvanized Steel Sleeves

Gauge BWG	For Use in Tool Groove	Stock No.	Approx. Shpg. Wt. Lbs. Per 100
14	C	5-083 C	2
12	D	5-109 D85	2
	Galvanized Copper Sleeves		
14	C	2-083 C	1½
14	D	2-083 D	1½
10	J	2-134 J85	6
9	J	2-148 J	4½
	For "130" or "135" Galvanized Wire		
12	D	5-109 D135	2½

FOR DROP, BRIDLE AND INSIDE WIRES

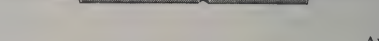
Splicing Sleeves

For Wire	For Use in Tool No.	Stock No.	Approx. Shpg. Wt. Lbs. Per 200
19-20-22 B & S Copper	17-2	3-036 A	½
17-18 AWG Copperweld, 17 B & S Bronze, 17-18 B & S Copper	17-2	3-045 B	1
16 B & S Copper	17-2	3-051 B	1
14 B & S Copper	17-2	3-064 B	1
18-19 BWG Ironite	17-2	4-049 B	1
Reducing Sleeve			
17 or 18 B & S to 19, 20 or 22 B & S	17-2	2-045x 036 B	1

Packed in boxes of 200.

NICOPRESS REDUCING SLEEVES

For Copper Telephone, Telegraph and Signal Line Wires



Gauge B&S		Gauge B&S	For Use in Tool Groove	Stock No.	Approx. Shpg. Wt. Lbs. Per 100
10	to	12	C	1-102x080 C	1½
9	to	12	D	1-114x080 D	1½
9	to	10	D	1-114x102 D	1½
8	to	12	E	1-128x080 E	2
8	to	10	E	1-128x102 E	2
8	to	9	E	1-128x114 E	2
6	to	10	J	1-162x102 J	4½
6	to	9	J	1-162x114 J	4½
6	to	8	J	1-162x128 J	4½

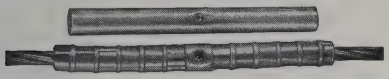
Other sizes of reducing sleeves available. Details on request.

NATIONAL NICOPRESS SLEEVES

NICOPRESS SPLICING SLEEVE FOR ALL-ALUMINUM CABLE

B & S Gauge	Strands	Stock Legend for Tool	Approx. Ship. Wt. Lbs. Per 100
3/0	7	51—Olive	45

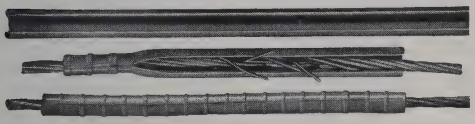
ALUMINUM JUMPER SLEEVES FOR ACSR



For 6/1 or 7/1 ACSR

ACSR Gauge	Length Inches	Stock Legend for Tool	Approx. Ship. Wt. Lbs. Per 100
4	5	51—Orange	10
2	5	51—Peach	11
1/0	5	51—Plum	14

NICOPRESS SPLIT ALUMINUM REPAIR SLEEVES FOR ACSR



For 6/1 or 7/1 ACSR

ACSR Gauge	Length Inches	Stock Legend for Tool	Approx. Ship. Wt. Lbs. Per 100
5 and 6	12	51—Apple	11
4	8	51—Orange	29
4	12		
2 and 1	8	51—Peach	32
2 and 1	12		
1/0	8	51—Plum	35
1/0	12		

Specify gauge and length.

NICOPRESS REPAIR SLEEVES

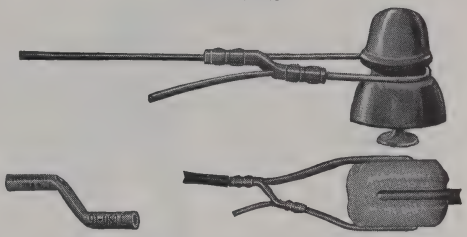
Nicopress Repair Sleeves for Copper Wire

Wire Size	For Use In Tool Groove	Length Sleeve Inches	Sleeve Stock No.
12 B&S	C	7	R1-080 C
10 B&S	C	7½	R1-102 C
9 B&S	D	8	R1-114 D
8 B&S	E	8	R1-128 E
6 B&S	J	10	R1-162 J

For BB Galvanized Wire

14 BWG	C	7	R2-083 C
12 BWG	C	7½	R4-109 C
12 BWG	D	7½	R2-109 D
8 BWG	J	10	R2-165 J

NICOPRESS OFFSET DEAD-END SLEEVES



Illustrations show Offset Dead-End Sleeve and completed dead-ends.

For Copper Wire

Gauge B & S	Gauge NBS	For Use in Tool Groove	Stock No.	Approx. Shpg. Wt. Lbs. Per 100
		Copper Sleeves		
12	14	C	91-080 C	2
*12	14	D	91-080 D	2
10	12	C	91-102 C	1½
*10	12	D	91-102 D	1½
*10	12	E	91-102 E	2
9	11	D	91-114 D	1½
* 9	11	E	91-114 E	2
8	10	E	91-128 E	2
* 8	10	J	91-128 J	4
6	6	J	▲91-162 J	4½
* 4	....	P	▲91-204 P	8
4	....	M	91-204 M	8½
3	....	P	91-229 P	9½
2	....	T	91-258 T	18

*Larger diameter sleeve than standard for use in the larger tool-groove.

For BB or "85" Galvanized Wire

BWG				
		Galvanized Steel Sleeves		
14	....	C	95-083 C	2
‡12	....	C	95-109 C	1½
†12	....	D	95-109 D85	2
		Galvanized Copper Sleeves		
14	....	C	92-083 C	1½
‡12	....	D	92-109 D	1½
‡10	....	J	92-134 J	3
10	....	J	92-134 J	6
9	....	J	92-148 J	3½
‡ 8	....	J	92-165 J	5
		Galvanized Bronze Sleeve		
‡12	....	C	94-109 C	1½

For "135" Galvanized Wire

		Galvanized Steel Sleeve		
†12	....	D	95-109 D135	2½

†Use in No. 31 tool. ‡For BB wire only.

For Copperweld Wire

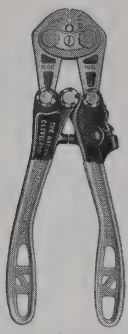
Offset Type

AWG Gauge or Conductor No.	Tool Groove	Stock No.	Wt. Lbs. Per 100
12	C	91-080 C	2
12	D	91-080 D	2
10	J	91-102 J	6½
9	J	91-114 J	7¼
8	M	91-128 M	8¼
6	P	91-162 P	12½
8A	P	▲91-8A-P	18
7A	P	91-7A-P	15½
6A	P	▲91-6A-P	15¾
4A	X	91-4A-X	26
8C-9½D 3 No. 12	M	▲91-3/081M	10

▲These items are R.E.A. Standard.

NATIONAL NICOPRESS TOOLS

Type No. 17



No. 31 2-Groove Tool

These tools meet all requirements for making splices by the Nicopress method. They are strong, durable and simple to operate.

Tool No.	Length Inches	Wt. Lbs. Net	Wt. Lbs. Shpg.
For Drop, Bridle and Inside Wires			
17–2	8	9 oz.	10 oz.
For Copper and High Tensile Steel Telephone Conductors			
31	11½	2	2½
For Power Distribution			
41	15	3½	4
For Copper, Copperweld and Aluminum Power Lines			
51	18	4	4½
For High-Strength Steel Power Lines			
3	35	12	13

Type No. 51

MUELLER UNIVERSAL CLIPS

CLIP INSULATORS

No. 27 Clip with No. 29 Insulator

Cat. No.	Description	Price Each
13	Flexible Ins. for Clips 11, 11-A	$0.63
23	Flexible Ins. for Clips 21, 21-A	.35
26	Flexible Ins. for Clips 24, 24-A	.25
29	Flexible Ins. for Clips 27, 27-C	.17
35	Flexible Ins. for Clip 33	1.63
47	Flexible Ins. for Clips 45, 45-C	.09
49	Flexible Ins. for Clips 48B, 48C, 50C, 51C	.11
74	7MM. Flexible Insulator for Clip 95	.15
87	Flexible Ins. for Clips 85, 85-C and 85-T	.08
90	7MM. Fexible Insulator for Clip 27	.17
93-P	Plastic Insulator for Clip 88	.05

MUELLER UNIVERSAL CLIPS

Screw or lug connections; no solder required; channel construction throughout; polarity indications + for positive, plain for negative.

No. 48-B

No. 24-A

Cat. No.	Description	Length of Clip	Spread of Jaws	Price Each
11	200 amp., solid copper Clip with lug	6″	1¾″	$1.28
11-A	100 amp., Clip, with lug, steel, lead plated	6″	1¾″	.84
21	100 amp., solid copper Clip with lug	4½″	1¼″	.65
21-A	50 amp., Clip with screw, steel, lead plated	4″	1¼″	.24
22	Twin-Clip with screw, steel, cadmium plated	2″	1½″	.10
24	50 amp., solid copper Clip with screw	2⅞″	1″	.26
24-A	25 amp., Clip with screw, steel, lead plated	2⅞″	1″	.15
27	20 amp., Clip with screw, steel, cadmium plated	2 7/16″	⅝″	.11
27-C	40 amp., solid copper Clip with screw	2 7/16″	⅝″	.19
33	300 amp., solid copper Clip with lug	7¾″	2″	2.25
45	Pee-Wee Clip with screw, steel, cadmium plated	1½″	⅜″	.07
45-C	Solid copper Clip with brass screw, phosphor bronze spring	1½″	¼″	.11
48-B	Clip with screw, steel cadmium plated	2″	½″	.08
48-C	Solid copper Clip, with screw	2″	½″	.13
50-C	Needle Clip, solid bronze, with screw	2¼″	½″	.23
51-C	Solid Bronze Clip with screw	2¼″	½″	.16
88	Pee-Wee phosphor bronze Clip	1 11/16″	¼″	.18
95	Clip with screw, steel, cadmium plated	2″	½″	.08

Packed 10 in a box; 100 in a standard carton.

ALLIGATOR AND CROCODILE CLIPS

No. 60-HS Alligator Clip

No. 85 Crocodile Clip

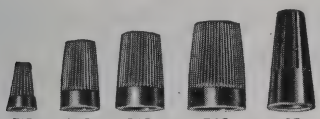
Cat. No.	Description	Price Each
60	Alligator Clip, steel, solder connection	$0.07
60-S	Alligator Clip, steel, screw connection	.08
60-HS	Alligator Clip, steel, insulated handle, screw connection	.13
60-CS	Alligator Clip, solid copper, screw connection	.11
60-CHS	Alligator Clip, solid copper, insulated handle, screw connection	.15
85	Crocodile Clip, steel, screw connection, cadmium plated	.08
85-C	Crocodile Clip, solid copper, brass screw, bronze spring	.13
85-T	Crocodile "Tip-Clip," steel, screw connection, cadmium plated	.18

Packed 10 in a box; 100 in a standard carton.

IDEAL "WIRE-NUTS"

SOLDERLESS—TAPELESS WIRE CONNECTORS

Underwriters Approved



1. Strip wire. 2. Screw on — that's all. "Wire-Nut" threads on to wire just like a nut on a bolt. The coil shaped spring insert presses (does not cut) clean threads into the stripped wires as the Connector is applied. Wires are tightly compressed and automatically twisted together by powerful grip. Molded composition shell completely protects against shorts, grounds and corrosion such as develop in loose solder and tape connections. Millions in use. Listed by Underwriters' Laboratories, Inc. A size for every need — solid or stranded.

Cat. No.	Size		Price Per 100	Price Per 1000
30-015	71B	No. 16 & No. 18 up to 3 No. 18; 1 No. 16 & 1 No. 18	Bulk	**$12.72**
30-017	73B	No. 14, 16 & 18 AWG up to 2 No. 14 and 1 No. 18 or 5 No. 18	**$1.98**	**18.14**
30-018	74B	No. 12, 14, 16 & 18 AWG up to 2 No. 12 and 1 No. 18; 4 No. 14 and 1 No. 18	**2.42**	**22.00**
30-019	76B	No. 10, 12, 14, 16 and 18 AWG up to 3 No. 10 with 1 No. 18; 4 No. 12 with 2 No. 18; 6 No. 14 with 2 No. 18	**4.52**	**41.26**
30-183	83	Hi-Volt, approved up to 600V.; 2 No. 18 to 2 No. 14 and 1 No. 18	Bulk	**20.36**

EXCEL PORCELAIN WIRE CONNECTOR

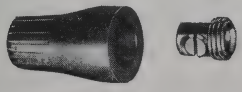
Approved by Underwriters' Laboratories, Inc. Made in one piece, high grade porcelain.

Perfect for roughing in fixture hanging and many other electrical connections.

No. E-3 30-008 (small size) joins combinations of solid and stranded wires up to and including 2 No. 18 and 2 No. 14.
Price, No. **30-008**....per 100 **$1.54**; per 1000..**$13.76**

No. E-5 (large size) joins combinations of solid and stranded wires up to and including 4 No. 14.
Price, No. **30-009**....per 100 **$1.76**; per 1000..**$15.74**

SET SCREW WIRE CONNECTORS



Underwriters' Laboratories approved for 600 volts, and as pressure cable connectors.

Cat. No.	Description	Price Per 100	Price Per 1000
30–211	No. 11, 2#12–3#14 1#12+2#12	**$9.80**	**$91.88**
30–222	No. 22, 2#10–3#12–5#14 2#12+1#12–2#12+2#14	**13.80**	**129.38**

PORCELAIN CLEATS

ONE WIRE B. & D. ROUND GROOVE

Style A

Style R (Regular) cleats have wire grooves ½-inch from surface of both cap and base. Style A wire grooves are 1-inch from surface of base, and ½-inch from surface of cap. Style B wire grooves are 1-inch from surface of both cap and base.

Cat.* No.	Takes Wire-Sizes	Price per 1000 Pair Style "R"	Style "A"	Style "B"
1	14-8	**$74.00**	**$80.00**	**$86.00**
1½	6-4	**96.00**	**108.00**	**120.00**
2	4-2	**110.00**	**120.00**	**140.00**
2½	2-0	**140.00**	**156.00**	**172.00**
3	0-00	**180.00**	**196.00**	**212.00**
3¼	10 Duplex Par'l	----------	----------	**260.00**
3½	00-0000	----------	----------	**260.00**
4	500M-1MM	----------	----------	**330.00**
4¼	800M-1¼ MM	----------	----------	**500.00**
4½	1MM-2MM	----------	----------	**620.00**

*Specify number and style when ordering.

Dimensions, Weights and Barrel Quantities

Cat. No.	Hght. In.	Wdth. In.	Lgth. In.	Groove In.	No. Pair Per Bbl.	Shpg. Wt. Lbs. 1000 Pr.
1 -R	1¼	13/16	2	⅛- ⅜	2300	170
1 -A	1 13/16	13/16	2	⅛- ⅜	1800	220
1 -B	2⅜	13/16	2	⅛- ⅜	1500	270
1½-R	1 7/16	29/32	2¼	¼- ½	1900	260
1½-A	1 29/32	29/32	2¼	¼- ½	1600	340
1½-B	2⅜	29/32	2¼	¼- ½	1200	420
2 -R	1⅝	1 1/16	2¼	⅜- ⅝	1300	310
2 -A	2	1 1/16	2¼	⅜- ⅝	1150	395
2 -B	2⅜	1 1/16	2¼	⅜- ⅝	1000	480
2½-R	2	1¼	2 13/16	7/16- ⅝	750	500
2½-A	2 3/16	1¼	2 13/16	7/16- ⅝	625	575
2½-B	2⅜	1¼	2 13/16	7/16- ⅝	600	650
3 -R	2⅛	1¼	3⅛	7/16- ¾	600	560
3 -A	2¼	1¼	3⅛	7/16- ¾	550	650
3 -B	2⅜	1¼	3⅛	7/16- ¾	500	740
3¼-B	2 11/16	1 11/16	3¼	¾-1¼	450	900
3½-B	2¾	1 5/8	3 3/16	¾-1	550	1000
4 -B	3	1 7/8	3¾	1 -1⅜	375	1400
4¼-B	3⅜	1 7/8	5	1⅜-1⅝	180	2300
4½-B	3⅝	1 31/32	5 7/16	1¾-1⅞	150	2700

STANDARD TWO- AND THREE-WIRE

Glazed or unglazed standard. Unglazed furnished unless glazed is specified.

For No. 12 and No. 14 Wire

Cat. No. 2-Wire	Cat. No. 3-Wire	Wdth. In.	Lgth. In.	No. Pr. Per Bbl.	Wt. Lbs. 1000 Pr.	Price Unglazed	Price Glazed
334	**337**	13/16	3½	2000	225	**$52.00**	**$90.00**
***334A**	***337A**	13/16	3½	1500	300	**78.00**	**135.00**
‡335	**‡336**	¾	3 7/16	1500	300	**60.00**	**100.00**
§335A	**§336A**	¾	3 7/16	800	420	**90.00**	**225.00**

For No. 8 and No. 10 Wire

350	**351**	¾	3 5/16	1200	250	**88.00**	**150.00**
***350A**	***351A**	¾	3⅝	800	425	**120.00**	**225.00**

*Style A with 1-inch base. ‡Heavy mill type. §Style A heavy mill type.

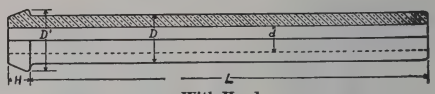
PORCELAIN TUBES

STANDARD — UNGLAZED

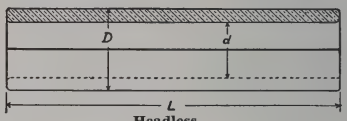
Lgth. In.	Std. Pkg.	Pkg. Wt. 1000	Per 1000 Pieces
5/16-In. Hole, 7/16-In. O.D.			
½	13000	26	$17.60
1	9500	32	18.70
1½	8200	40	19.80
2	7000	45	20.90
2½	5500	58	23.10
3	4500	62	25.30
4	3600	80	33.00
5	2900	100	42.90
6	2000	118	55.00
8	2000	155	99.00
10	1600	194	183.70
12	1050	244	268.40
14	900	333	353.10
16	750	387	437.80
18	650	435	523.50
20	550	485	607.20
24	500	535	776.00
3/4-In. Hole, 1 1/16-In. O.D.			
1	3000	93	$66.00
1½	2200	127	77.00
2	1700	159	88.00
2½	1400	193	99.00
3	1200	217	110.00
4	1000	250	127.60
5	900	239	145.20
6	550	373	162.80
8	450	444	198.00
10	300	667	319.00
12	250	800	429.00
14	200	900	541.20
16	200	1000	653.40
18	175	1100	765.60
20	175	1200	877.80
24	150	1334	1100.00
⅜-In. Hole, 11/16-In. O.D.			
½	12000	30	$22.00
1	8800	37	23.10
1½	7500	48	24.20
2	6000	54	26.40
2½	4000	76	29.70
3	3100	107	33.00
4	2000	117	44.00
5	1900	142	55.00
6	1500	183	66.00
8	1200	225	115.50
10	1000	275	204.60
12	800	350	293.70
14	650	400	382.80
16	550	483	471.90
18	450	580	561.00
20	400	644	660.10
24	350	725	828.30
1-In. Hole, 1 7/16-In. O.D.			
1	2000	185	$110.00
1½	1400	193	123.20
2	1000	260	137.50
2½	800	325	151.80
3	650	385	165.00
4	550	436	184.80
5	500	440	204.60
6	450	489	224.40
8	400	525	264.00
10	280	750	412.50
12	220	955	550.00
14	180	1167	687.50
16	160	1312	825.00
18	150	1400	962.50
20	120	1750	1100.00
24	100	2100	1375.00
½-In. Hole, 11/16-In. O.D.			
1	5500	56	$29.70
1½	4200	74	30.80
2	3500	86	33.00
2½	3000	100	36.30
3	2500	114	40.70
4	2000	138	52.80
5	1600	169	66.00
6	1300	204	79.20
8	1000	255	143.00
10	900	311	236.50
12	800	344	330.00
14	700	393	412.50
16	550	500	517.00
18	450	589	610.50
20	400	662	704.00
24	350	757	891.00
1¼-In. Hole, 1 13/16 In. O.D.			
2½	450	578	$209.00
3	400	650	231.00
4	350	714	264.00
5	325	708	299.20
6	275	836	336.60
8	220	1000	413.60
10	200	1100	495.00
12	160	1375	770.00
14	120	1833	951.00
16	100	2000	1144.00
18	80	2750	1331.00
20	60	3200	1418.00
24	60	3667	1892.00
⅝-In. Hole, 13/16-In. O.D.			
1	3700	78	$44.00
4	1750	149	88.00
5	1450	155	104.50
1½	3000	97	50.60
2	2500	112	57.20
2½	2200	127	63.80
3	2000	135	71.50
6	950	226	121.00
8	680	294	154.00
10	550	364	275.00
12	500	400	374.00
14	450	444	473.00
16	400	500	572.00
1½-In. Hole, 2 5/16-In. O.D.			
2½	325	815	$310.00
8	140	1607	539.00
10	120	1875	638.00
3	300	883	308.00
4	250	1020	352.00
5	180	1306	396.00
6	160	1407	445.50
12	100	2250	1127.50
14	80	2812	1358.50
16	60	3750	1589.50
18	50	4500	1826.00
20	45	4800	2062.50
24	45	5000	2530.00

PORCELAIN HIGH VOLTAGE TUBES

STANDARD HIGH VOLTAGE TUBES



With Head



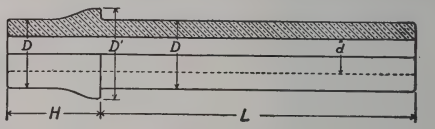
Headless

Color of glaze is brown, unless otherwise specified. Unless otherwise specified tubes with heads are furnished.

Cat. Nos. With Head	Cat. Nos. Head-less	Dimensions, Inches d	D	D'	H	Wt. Oz. per Inch in L
1200	1300	1	2	2¾	1	3.0
1201	1301	1½	2½	3¼	1	4.6
1202	1302	2	3	3¾	1	5.8
1203	1303	2½	3½	4¼	1	6.8
1204	1304	3	4½	5¼	1	12.6
1205	1305	3½	5	5¾	1	14.4
1210	1310	4	5½	6¼	1	16.0
1211	1311	4½	6½	7¼	1	25.0

STANDARD HIGH VOLTAGE FLOOR TUBES

3, 4½ and 6 Inch Heads

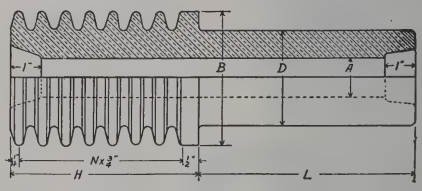


Nos. 1400 to 1407

Cat. No.	Size, Inches d	D	D'	Cat. No.	Size, Inches d	D	D'
1400	1	2	2¾	1404	3	4½	5¼
1401	1½	2½	3¼	1405	3½	5	5¾
1402	2	3	3¾	1406	4	5½	6¼
1403	2½	3½	4¼	1407	4½	6½	7¼

Please specify dimensions H and L.

STANDARD TUBES WITH CORRUGATED HEAD



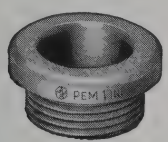
Standard tubes with corrugated head, Nos. 1600 to 1607.

Cat. No.	Size, Inches A	D	B	Cat. No.	Size, Inches A	D	B
1600	1	2½	3	1604	3	4¾	5¼
1601	1½	3	3½	1605	3½	5¼	5¾
1602	2	3½	4	1606	4	5¾	6¼
1603	2½	4	4½	1607	4½	6½	7

Please specify dimensions H and L.
Prices furnished upon application.

ADALET "SALI" INSULATING BUSHINGS

MALE TYPE "SALI" BUSHINGS



Type PEM

A compact male bushing, recommended for insulating cables and/or wires passing through steel cabinet walls, outlet boxes, etc.

Cat. No.	Pipe Size In.	O.D. In.	Height *In.	Cart. Quan.	Weight Per 100	Price Per 100
PEM-01	⅛	5/8	21/64	100	½	$23.00
PEM-02	¼	¾	21/64	100	½	23.00
PEM-03	⅜	⅞	21/64	50	¾	23.00
PEM-2	½	1 7/64	7/16	25	1¼	20.40
PEM-3	¾	1 5/8	7/16	25	1½	25.20
PEM-4	1	1⅝	33/64	25	2½	33.60
PEM-5	1¼	2	33/64	10	3	40.80
PEM-6	1½	2¼	33/64	10	3¼	51.60
PEM-8	2	2¾	33/64	10	5½	62.40
PEM-10	2½	3¼	¾	5	10	108.00
PEM-12	3	3⅞	¾	5	13¾	157.20
PEM-14	3½	4⅜	¾	2	18¾	171.60
PEM-16	4	5	¾	2	25	244.80
PEM-18	4½	5½	¾	1	31	259.20
PEM-20	5	6¼	¾	1	31	308.40
PEM-24	6	7¼	¾	1	41	337.20

Type PEML

With Steel Locknuts

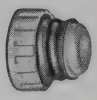
Cat. No.	Pipe Size In.	O.D. In.	Height *In.	Cart. Quan.	Weight Per 100	Price Per 100
PEML-03	⅜	⅞	21/64	50	2	$27.00
PEML-2	½	1 7/64	7/16	25	2¼	24.00
PEML-3	¾	1 5/8	7/16	25	4½	30.00
PEML-4	1	1⅝	33/64	25	5½	40.80
PEML-5	1¼	2	33/64	10	9½	54.00
PEML-6	1½	2¼	33/64	10	9½	67.20
PEML-8	2	2¾	33/64	10	13	104.40
PEML-10	2½	3¼	¾	5	23¾	156.00
PEML-12	3	3⅞	¾	5	47½	229.20
PEML-14	3½	4⅜	¾	2	59½	273.60
PEML-16	4	5	¾	2	72	360.00
PEML-18	4½	5½	¾	1	103	384.00
PEML-20	5	6¼	¾	1	131	462.00
PEML-24	6	7¼	¾	1	166	552.00

Insulating "Sali" Locknuts

IN-01	⅛	5/8	11/64	50	¼	$ 7.80
IN-02	¼	¾	¼	50	½	7.80
IN-03	⅜	⅞	¼	50	½	7.80
IN-2	½	1 7/64	5/16	25	¾	7.80
IN-3	¾	1 5/16	5/16	25	1	9.60
IN-4	1	1⅝	25/64	25	1½	12.00
IN-5	1¼	2	25/64	10	2½	14.40
IN-6	1½	2¼	25/64	10	2½	18.00
IN-8	2	2¾	25/64	10	3¾	27.90
IN-10	2½	3¼	9/16	5	6¼	48.00
IN-12	3	3⅞	9/16	5	7½	52.80
IN-14	3½	4⅜	9/16	1	8¾	69.00
IN-16	4	5	9/16	1	11½	86.40

*Height under shoulder.

FEDERAL PORCELAIN BUSHINGS



TYPE A BUSHINGS

Bushings are made of one-piece, best-grade, vitrified porcelain. Clamping rings are made of metal, threaded to fit threads on the porcelain.

Cat. No.	Conduit K. O. Size, In.	Diam. In-side	Diam. In. Out-side	Approx. Max. Size R.C. Wire	Std. Pkg.	Price Per 100
A-1	*¼	5/16	41/64	No. 10	500	$8.25
A-1½	½	5/16	13/16	No. 10	250	9.00
A-1½LS	½	5/16	13/16	No. 10	250	10.00
A-2	½	15/32	13/16	No. 8	250	9.00
A-2LS	½	27/64	13/16	No. 8	250	10.00
A-2½	½	33/64	13/16	‡No. 4	250	10.00
A-3	¾	9/16	1	No. 3	250	11.00
A-4	1	¾	1 5/16	No. 00	125	15.50
A-4L	1	⅞	1 5/16	No. 4/0	125	15.50
A-5	1¼	1 1/16	1 5/8	450000 C.M.	125	20.00
A-6	2	1⅝	2 5/16	1000000 CM.	60	38.50

LS, long shank. *Loom. ‡For ½-inch Neon sign cable.

TYPE B EXTRA LONG BUSHING

Will fit No. 10 solid, single-braid, rubber-covered wire.

Cat. No.	Conduit K.O. Size, In.	Diam., In. Inside	Diam., In. Outside	Std. Pkg.	Price Per 100
B-1	*¼	9/32	41/64	250	$15.50

*Loom.

SPRING CLAMP BUSHING

No. C-2

A special type bushing with shorter shank. Spring clamp is used instead of ferrule. Carton, 100.

Cat. No.	Diam., In. Inside	Diam., In. Outside	Std. Pkg.	Wt.Lbs. Std.Pkg.	Price Per 100
C-1	11/32	5/16	500	15	$7.75
C-2	½	13/16	500	15	8.25

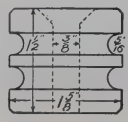
PIPE THREAD BUSHINGS

No. F-2L

These bushings are made to fit standard pipe couplings and take standard steel locknut. No. F-1½ bushing has longer shank.

Cat. No.	Description	Size, Inches Pipe	Size, Inches Wire Hole	Std. Pkg.	Price Per 100
F-1	Plain	⅜	13/32	500	$5.50
F-1L	With Lock Nut	⅜	13/32	500	7.75
F-1½	Plain	⅜	13/32	250	5.50
F-1½L	With Lock Nut	⅜	13/32	250	7.75
F-2	Plain	17/32	½	250	7.75
F-2L	With Lock Nut	17/32	½	250	10.00

PORCELAIN TELEPHONE KNOBS



Two Groove

Cat. No.	Hgt. In.	Dia. In.	Hole No. In.	Wt.Lbs. Pr Bbl.	Wt.Lbs. Pr Bbl.	Price Pr 1000
6061	1 7/16	1⅝	⅜	1900	400	$88.00
4	1 11/16	1½	⅜	2000	450	62.00

Four Groove

6062	2¼	1¾	7/16	1000	395	150.00

Size Groove, 5/16 inches.

PORCELAIN INSULATORS

ALLIGATOR NAIL KNOB

Thick nail-heads; heavy porcelain cap.

Size Wire	12–14
Height, In.	1¾
Diameter, In.	1⅛
Standard Bbl.	2700
Standard Bbl., Weight, Lbs.	445
Price Per 1000 Glazed	$70.00
Price Per 1000 Unglazed	64.00

Also furnished in cartons of 100 or 500.

No. 5½ SOLID NAIL KNOB

Size Wire	12–14
Height, In.	1¾
Diameter, In.	1⅛
Standard Bbl.	3000
Standard Bbl., Weight, Lbs.	440
Price Per 1000	$56.00

Also furnished in cartons of 100 or 500.

ALLIGATOR SCREW KNOB

With No. 10, 2¾-inch screw.

Size Wire	12–14
Height, In.	1¾
Diameter, In.	1⅛
Standard Bbl.	2700
Standard Bbl., Weight, Lbs.	445
Price Per 1000 Glazed	$90.00

Also furnished in cartons of 100 or 500.

No. 5½ SPLIT—Glazed

Size Wire	12–14
Height, In.	1¾
Diameter, In.	1⅛
Standard Bbl.	3800
Standard Bbl., Weight, Lbs.	515
Price Per 1000	$52.00

Also furnished in cartons of 100 or 500.

LARGE SIZE—FOUR GROOVES

Cat. No.	9419	9420
Size Wire	8–10	4–6
Height, In.	1⅞	2⅛
Diameter, In.	1½	2
Standard Bbl.	1500	750
Std. Bbl., Wt., Lbs.	430	450
Price Per 1000	$105.00	$180.00

Also furnished in cartons of 100 or 500.

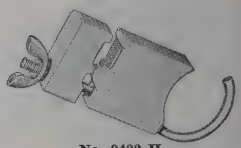
EMILY KNOBS

Cat. No.	Lgth. Overall In.	Diam. Knob In.	Hole In.	Bbl. Qty.	Price per 1000 Bbl.	Price per 100 Box 500
1925	7¼	1⅛	⅜	2000	$56.90	$75.00
1926	3	1⅛	⅜	2400	47.40	62.00

PORCELAIN PRODUCTS' RADIO AND TELEVISION INSULATORS

TV-FM LEAD-IN SUPPORTS—UNGLAZED

No. 9423

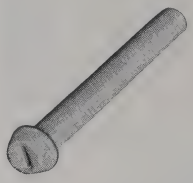


No. 9422-H

Cat. No.	Assembled	Approx. Wt. Lbs. Per M
9418	⅜-in. Twin-wire, Screw	170
9422	½-in. Twin-wire, Screw	170
9423	¼-in. Coaxial Cable, Screw	170
9424	⅜-in. Coaxial Cable, Screw	170
9418H	⅜-in. Twin-wire, Hook	171
9422H	½-in. Twin-wire, Hook	171
9423H	¼-in. Coaxial Cable, Hook	171
9424H	⅜-in. Coaxial Cable, Hook	171

Standard carton quantity, 100.

TV-FM LEAD-IN TUBES



Provide neatness of appearance and essential insulation for ⅜-inch twin-wire lead-in conductors going through walls, partitions, etc. Available in 7 different lengths. Slotted hole prevents conductor from twisting. Fits hole made by standard ¾-inch bit.

Description	Carton Qty.	Wt. Lbs. Per 1000
3-inch Length Underneath	100	110
4-inch Length Underneath	100	143
5-inch Length Underneath	100	175
6-inch Length Underneath	100	210
8-inch Length Underneath	100	275
10-inch Length Underneath	100	330
12-inch Length Underneath	100	395

SCREW EYES—BRIDLE RINGS

Cat. No.	Description	Wt. Lbs. Per 1000
1925	Radio Screw Eyes ⅜" Hole, 7" Lg.	110
1926	Radio Screw Eyes ⅜" Hole, 3" Lg.	90
1961	⅝" Hole, Type L Screw Eyes, 3 5/16" Lg.	100
1962	⅝" Hole, Type S Screw Eyes, 2⅝" Lg.	90
1963	1" Hole, Type L Screw Eyes, 4¾" Lg.	200
1964	1" Hole, Type S Screw Eyes, 3¾" Lg.	180
1965	1" Hole, Eyelet Type Bridle Ring	200
1966	⅝" Hole, Eyelet Type Bridle Ring	180

Standard carton quantity, 100.

ANTENNA INSULATORS

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Per 1000
8117	Antenna Insulator 2½x1 inch	100	146
8118	Antenna Insulator 2½x1 inch	100	146
8119	Antenna Insulator 2½x1 inch	100	130
8120	Antenna Insulator 2½x1 inch	100	130
500-D	Strain Insulator 2⅛x1 5/16 inch	100	235

PORCELAIN BOX FOR WIRING CIRCUITS

Cat. No.	Description	Carton Qty.	Wt. Lbs. Per 100
8317	All Porcelain Box for TV-FM Wiring Circuits	50	62

GENERAL ELECTRIC
BLACK AIR-DRYING
VARNISH
No. 467
KESTER
FLUX CORE
SOLDER
GENERAL ELECTRIC
Glyptal
No. 1201
RED
Batch No.
DIRECTIONS
STIR THOROUGHLY BEFORE USING
SCHENECTADY, N. Y.
AMBER
insulating
materials
ONE ROLL
Two-in-One
COMBINATION
Tape
B.F.Goodrich
McGILL MFG. CO.

G-E SOLDERING MATERIALS

G-E SOLDERING FLUID

G-E 291 soldering fluid is a liquid non-acid soldering fluid, for surfaces previously cleaned or tinned. The solvent of this flux is inflammable. Used for soldering leads to commutators, tinning commutators, tinning induction motor rotors and for all delicate work where protection against corrosion is needed. Available in 1-gallon and 5-gallon containers. Addition made to 1-gallon price for quart or pint containers.

G-E 294 soldering salt solution is an acid flux in liquid form. It is extremely powerful and injurious to insulating materials and for this reason its use on insulated work should be avoided wherever possible. Used for dirty and difficult work generally. Same as G-E 295 Soldering Stick except supplied in liquid form. Available in 1-gallon container. Addition made to 1-gallon price for quart or pint containers.

G-E SOLDERING FLUX

G-E 295 soldering flux is an acid flux in stick form. It is extremely powerful and injurious to insulating materials and for this reason its use on insulated work should be avoided. Used for dirty and difficult work generally. Same as G-E 294 Soldering Salt Solution except supplied in 1⅜-ounce stick form, 10 sticks to the carton.

G-E 1533 soldering flux is a non-corrosive flux made in stick form. It is slow in action and is not recommended for general use. It is not used for fluxing bare copper but on tinned cable it is very effective. Carton, 10 sticks, 1½-ounce weight each.

G-E 2103 soldering flux is a non-corrosive flux made in stick form. It is slow in action and useless on the least oxidized surfaces. Used particularly in making wiped joints on cable terminals. As the solder loses its plastic state, the joint is thoroughly covered with this flux leaving the surface of the joint very clean and bright. Carton, 10 sticks, 2½-ounce weight each.

G-E SOLDERING PASTE

G-E 293 soldering paste will solder all metals except aluminum. Supplied in: 2-ounce container, 36 in carton; 8-ounce container; 1-pound container; and in 8-pound container.

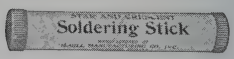
IF YOU DO NOT FIND
WHAT YOU WANT
IN THIS CATALOG,
CALL OR WRITE OUR
NEAREST OFFICE

McGILL SOLDERING PASTE

A high quality soldering flux which saves time and labor and assures a smooth, evenly flowing metal and perfect results. Strong and rapid in action. Absolutely non-corrosive.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
2775	2 oz. Tin (in display carton of 20 Tins)	100	15	$26.00
2776	4 oz. Tin	100	29	44.00
2777	8 oz. Tin	50	32	83.00
2778	16 oz. Tin	50	55	131.00

McGILL SOLDERING STICKS



A convenient form of soldering flux of the same quality as Star and Crescent paste.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
2774	3½ oz. Stick	100	22	$43.00

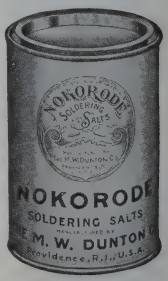
NOKORODE SOLDERING MATERIAL

SOLDERING PASTE

Will flux all metals except Aluminum. Takes the place of acid in all soldering jobs. Absolutely non-corrosive, safe as resin and rapid as acid. Not affected by heat and does not spatter. The solder will not turn dark after using and the work has the highest tensile strength known.

Size of Can	Standard Package	Price
2 ounces	12 to Carton ..... each	$0.10
1 pound	6 to Carton ..... per lb.	.70
10 pounds	Anq Quantity ..... per lb.	.55
25 pounds	Any Quantity ..... per lb.	.50
50 pounds	Any Quantity ..... per lb.	.48
100 pounds	Any Quantity ..... per lb.	.45

SOLDERING SALTS



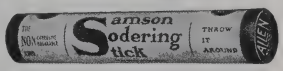
Eliminates the use of corrosive soldering acid and makes perfect, lasting and non-corrosive joints. Extensively used by plumbers, tinsmiths and leading manufacturers. No disagreeable fumes while under heat — will not burn the operator's hands or clothing. It is recommended to dissolve one pound of these salts in one gallon of water.

Size of Can	Standard Package	Price
1 pound	6 to Carton ..... per lb.	$0.60
5 pounds	Any Quantity ..... per lb.	.50
25 pounds	Any Quantity ..... per lb.	.37
50 pounds	Any Quantity ..... per lb.	.34
100 pounds	In Drum ..... per lb.	.31

ALLEN SODERING STICKS

Makes a joint on any metal about three times as strong as is made with muriatic acid flux and one that is free from subsequent corrosion.

Heat metal parts to be sodered. Rub stick onto hot metal surfaces; apply the soder and hold sodered parts firmly together until set—about one second's time.



Description	Size Pkg.	Price Each
Allen Sodering Stick	1x5¼ in.	$0.30
Samson Sodering Stick	1x5 in.	.15

ALLEN SODERING PASTE

Will not corrode nor injure in any way surfaces to which it is applied. Soder dipped into this paste is self-fluxing. A form of the Allen stick.

Style Package	Price Each
2-Oz. Cans	$0.13
4-Oz. Cans	.25
½-Lb. Cans	.50
1-Lb. Cans	.90
5-Lb. Cans	4.40

ALLEN SODERING SALTS

An all around flux in convenient powder form; just add water 3 to 5 times according to metal to be sodered. Soders all metals but aluminum. Takes a quick bite and makes the soder hold on. Non-acid. Packed in metal or glass as preferred.

Description	Price Each
½-Lb. Bottles	$0.40
1-Lb. Bottles	.59
5-Lb. Bottles	2.70

ALLEN SODERING LIQUID

A sodering liquid, non-acid for any metal. Especially adapted to galvanized iron or steel.

Description	Price Each
2-Oz. Can	$0.13
4-Oz. Can	.20
1-Quart Can	.65
1-Gal. Can	2.00

Allen Sodering Oil

This is a highly technical non-acid Sodering Oil. It works on all metals but aluminum.

Price, 1-Lb. Can..... $0.80

ALLEN "ALL-SOL" STAINLESS STEEL SODERING FLUX

A remarkable, vigorous flux that makes the sodering of stainless steel as easy as sodering tinplate. Used with ordinary soder, or with special Allen Stainless Soder. Requires no special tools. (White Label shipping regulations.)

Price, per Pint..... $1.60

ALLEN STAINLESS STEEL SODER

Makes even stronger joints than ordinary soder. Two grades: extra strong grade for all-around soldering, in bar form only; Hi-lustre grade for decorative work, in wire only.

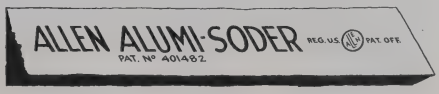
Price, Bars, per lb., Market. Wire, per lb., Market

ALLEN STAINLESS STEEL POLISH

An excellent polish for stainless steel. Removes heat burns, fabrication marks, etc. In two sizes.

Price, 1 lb..... $1.35; 5 lb..... per lb. $0.90

ALLEN ALUMI-SODER



A complete soder and flux combined. Requires only heat to permanently join aluminum to itself or other metals. Comes in ¼-pound and 1-pound bars; also in trial pieces, $3.30 per dozen.

Description	Price
¼-Lb. Bars, per pound	Market
1-Lb. Bars, per pound	Market

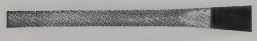
ALLEN SODERING SUPPLIES

BRICK SAL AMMONIAC

Cleans and tins bright the soldering copper. Outlives fibrous lump many times. Does not crumble, nor corrode metal work nor tools on the job.

Description	Price Each
¼-Lb. Brick	$0.20
½-Lb. Brick	.35
1-Lb. Brick	.60

ACID SWABS



Supertite medium size, 5x½ inches.
Price, per Gross..... Market

Supertite large size, 6x⅝ inches.
Price, per Gross..... Market

KESTER SOLDER

KESTER SOLDERING PASTE

An improved soldering paste due to new manufacturing methods. More uniform. Every portion alike in fluxing strength. No failures with Kester, a perfect job every time. Carton of ten.

Price, 2-oz. Cans.....Market
Price, 1-lb. Cans.....Market

KESTER SOLDERING SALTS

The easiest and most economical way to make your own soldering acid. The addition of water results in a flux that is very efficient for general work. Excellent for use in the automotive shop and for factory work. Available in 5, 10, and 50 pound pails.

Price, per Pound.....Market

KESTER PLASTIC ROSIN-CORE SOLDER

The most efficient solder for all electrical and radio work, automotive or otherwise. Eliminates all possibility of corrosion, resistance or leakage. "Plastic Rosin," a feature of Kester, enables the user to solder perfectly and with ease.

Available in 1, 5, and 20 pound spools.

Price, per Pound.....Market

KESTER METAL MENDER

The handy tool-kit package of Kester Acid-Core solder. There is a generous coil in every can. Kester Metal Mender has numerous uses everywhere. Saves its cost many times in making and repairing all sorts of metal objects.

Price, Display Carton of
10 Cans .....Market

KESTER "RESIN-FIVE" CORE SOLDER

Non-corrosive and non-conductive. The better solder for TV, all radio and electronic parts — everything electrical. For those jobs difficult to solder with conventional Rosin-Core solder. 1 and 5 pound spools.

Price per Pound.....Market

KESTER SOLDER

KESTER ACID-CORE SOLDER

The "one Acid Filled Solder" that is the original Cored solder. Kester Acid-Core solder meets all general soldering requirements. Easy-to-use, saves time or labor, and always makes a perfect job that is lasting. Available in 1, 5, and 20 pound spools.

Price, per Pound.....Market

KESTER RADIO SOLDER

The handy size package of Plastic Rosin-Core solder in flat or ribbon type. Just the unit for the radio fan, amateur or serviceman's kit.

Each can contains a plentiful supply sufficient for considerable soldering and it costs the consumer but little.

Price, Display Carton of
Ten Cans .....Market

KESTER ALUMINUM SOLDER

Flux-Core

The only aluminum solder of the flux-core type — has its own necessary flux in the core. The "answer" to that long-existing demand for a practical solder of this kind.

Price, Display Carton
of Ten Cans.....Market

KESTER SOLID WIRE SOLDER

Uniform in gauge and alloy. The same high quality in metals and fabrication found in Kester Flux-Core solders. Every spool carries positive alloy identification. 1 lb., 5 lb., 20 lb. spools and 50 lb. reels.

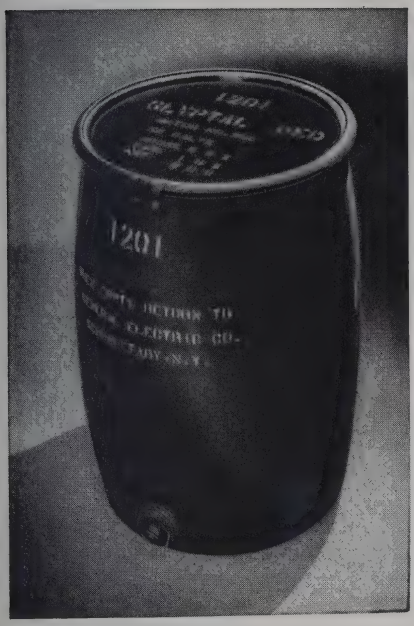
Price, per Pound.....Market

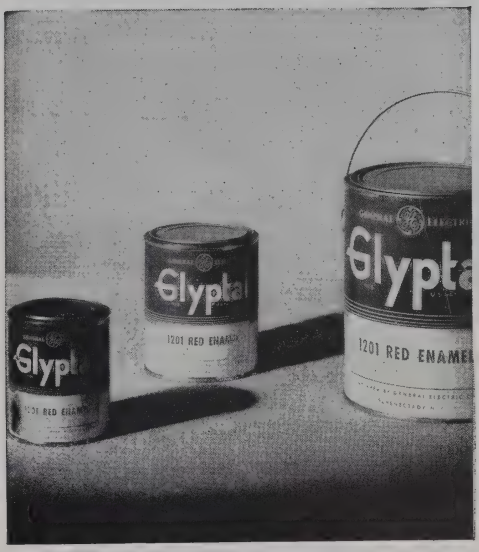
KESTER BAR SOLDER

Best of metals used. Definite alloy-marking. Easy flowing. Convenient-to-handle one pound bars.

Price, Bar Solder.....per Pound (Market)

G-E INSULATING PAINTS AND GLYPTAL*





Under the trade name of "Glyptal," General Electric has developed synthetic resin products (coating materials, compounds, and adhesives) of outstanding merit for adhesion, heat resistance, arc resistance, humidity, acid, alkali, and oil resistance.

Glyptal coating materials are of neat appearance and provide rapid drying, hard, glossy, durable surfaces which withstand oil spray and splash, weak acid and saline conditions. They not only possess notable insulating values in themselves, but afford protection and preserve the basic insulating varnish-treated structures to which they are applied.

Glyptal materials are used on electrical apparatus manufactured by the General Electric Company where durability, adhesion, or electrical properties of the finish are highly important.

*Reg. U.S. Pat. Off.

G-E INSULATING PAINTS AND GLYPTAL*
(Continued)

Re-insulating compensator coil with No. 1201 Glyptal Red

No. 1201 Glyptal Red is a nationally known favorite for protecting and sealing insulated surfaces against deterioration and unusually severe exposure to corrosive conditions. No. 1201 has established its leadership over previously used coating and has maintained its position in the forefront of imitative products.

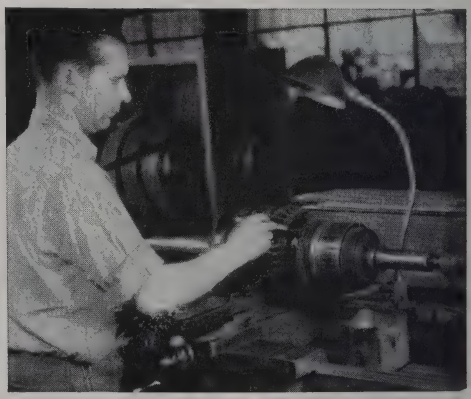
Electrical manufacturers find No. 1201 Glyptal Red of use for:

Field Coils
Control Coils
Turbine Stator Coils
D-c Armature Edgewise-wound Motor Coils
Magnetic Separator Coils
The Inside of Motor Frames
Ends of Commutators
Collector Rings
Controller Shafts
Bus Bars
Finger Blocks
Switch Bases
Fuse Tubes
Porcelain and Molded Compound Parts

For the treatment of coils, a penetrating and filling type insulating varnish, such as G-E No. 9574, should first be applied. After drying, the entire coil surface should be coated with No. 1201 Glyptal.

No. 1201 is also unexcelled for sealing joints, gasket assemblies, pipe connections, screw plugs, etc., to prevent leakage of oil, gas, water or air.

Finishing field and interpole coils with No. 7815 Glyptal Black



No. 1201 Glyptal Red being applied to armature

* Reg. U.S. Pat. Off.

G-E INSULATING PAINTS AND GLYPTAL*
(Continued)

G-E 1201 GLYPTAL RED

G-E 1201-B GLYPTAL RED

Protect Seal

G-E 1201 Glyptal Red is an air-drying or quick-baking Glyptal famous for its protection of coil windings, metallic surfaces, porcelain, molded insulation, fiber, etc.

G-E No. 1201-B Glyptal Red is like G-E No. 1201 except that it is of a heavier consistency and is recommended as a filler or sealer for joints of various types to prevent leakage of oil, gas, water and other materials.

G-E 1201 GLYPTAL RED REDUCES MAINTENANCE COSTS BECAUSE:

It protects machines, controls, insulation, etc., against

Arcing	Alkali
Moisture	Dust
Oil	Salt air
Heat	Acid

G-E 1201 IS ABLE TO DO THIS BECAUSE OF THESE CHARACTERISTICS:

1 High heat resistance
2 Non-carbonizing under arcing
3 Great resistance to abrasion
4 Prolonged resistance to mineral oil
5 When baked, resistant to kerosene and gasoline
6 Resistant to sodium carbonate and oleic acid
7 Resistant to adherence of dirt, due to smooth, hard, glossy surface
8 Comparatively high dielectric strength
9 Comparatively high surface resistance
10 Tenacious adherence to underlying surface
11 High degree of flexibility

This Glyptal dries rapidly to produce a smooth, red film of pleasing appearance. It may be sprayed, dipped, or brushed. For spraying, the mixture should be three parts Glyptal to one part G-E 1500 thinner.

SOME TYPICAL USES OF G-E 1201 GLYPTAL RED

Arc-proof Coating
For: Controller shafts, finger blocks, switch bases, and other electrical insulation; switch parts (porcelain, molded compound, etc.).

Protective Finishing Coat (moisture, oil, acid, dust, etc.)
For: Field coils; inside of motor frames; commutator parts; collector rings; magnetic separator coils; inside of oil-immersed switch housings; fuse tubes; bus bars for oil-insulated transformers; enamelled wire coils; parts of railway control equipment; paper tubing, motor brush rigging; terminal and tops of storage batteries; lead-covered cable exposed to salt water spray; windings and machine frames.

Sealing Material—G-E 1201-B Glyptal Red
For: Oil lines, air lines; threaded pipe joints; gaskets; transformer oil taps; crank case flanges of air-cooled airplane engines etc.

THESE INDUSTRIES HAVE FOUND GLYPTAL RED VERY USEFUL

Alkali	Nitro-cotton products	Sewage disposal plants
Bleacheries	Meat packing plants	Slag products
Carbon products	Pineapple packing plants	Subways and tunnels
Chemical products	Oil refineries	Railroads
Dyehouse products	Rubber products	Woolen mills
Central stations	Sea coast industries	Steel plants
Mining	Fish packing	Repair shops

1201 Glyptal Red is not recommended for outdoor exposure or as a metal primer for such service.

SPECIFICATIONS

Dielectric Strength A.S.T.M. D-115-31T — 1045 volts per mil. — Average

Wt. per gallon (approx) 1201 ..... 9.75 lb; 1201-B ..... 11.5 lb

Viscosity at 21 C (1201) ..... 350-400 CP

Thinner ..... No. 1500

Drying time at	1201	1201-B
21 C	8 hours	4 hours
100 C	5 hours	2½ hours
125 C	2 hours	1 hour
150 C	1 hour	½ hour

* Reg. U.S. Pat. Off.

G-E INSULATING PAINTS AND GLYPTAL*

(Continued)

COMPARISON OF G-E No. 1201 GLYPTAL-RED WITH COMPETITIVE RED INSULATING PAINTS

Red Insulating Paint	% Solids Content	Dielectric Strength V.P.M. Air Dried Films	Arc Resistance in Seconds Air Dried Films	Film Forming	Heat Aging Days At 150 C (302 F)	Resistance to Salt Spray (16 days–70 F–100% RH	Resistance to Humidity (96% RH–16 days–70 F)	Dry Time at Room Temp.		Relative Material Cost 100 Sq. Ft.–1 Mil Thickness
								Tack Free	Hard	
G-E No. 1201	60	1000(+)	420(+)	A	257+	A	A(+)	⅓	O.N.△	100
A	59	700	72	C	30+*	C	B	⅓	5	80
B	60	....	78	C	30+*	B	B	1	4	120
C	51	....	117	A	2	D	C	¼	4	110
D	53	225	121	B	30+*	A	B	1	3	150
E	48	1000(+)	178	B	2	D	A	½	O.N.△	110
F	50	1000	12	A	2	D	B	1	O.N.△	110
G	50	650	420	C	2	D	B	1	O.N.△	140
H	60	570	54	C	30+*	A	C	¼	5	110
I	16	345	317	C	30+*	D	B	¼	3	360
J	44	330	177	C	30+*	D	B	2	O.N.△	150

.... Data not available.

* Tests still in progress.

△ Indicates a drying period over night—approx 16 hours.

EXPLANATION OF TESTS

All tests made in accordance with ASTM testing procedures except as follows:

Film Forming—

Measures the ability of the coating to form a void-free continuous film.

A—indicates continuous film in 1 coat
B—indicates continuous film in 2 coats
C—indicates continuous film in 3 or more coats

Salt Spray and Humidity—

A(+)—Excellent
A —Good
B —Fair
C —Poor
D —Very poor

Heat Aging

Tests made on copper bars wound with cotton tape and then treated with material under test. The test specimens were then exposed continuously to a temperature of 150 C (302 F) and examined periodically for surface cracks.

* Reg. U.S. Pat. Off.

HI-SPOT SUMMARY OF ABOVE CHART

Red Insulating Paint	Comment
G-E No. 1201	Best balance of essential properties
A	Poor arc resistance; very poor film forming and resistance to salt spray.
B	Poor arc resistance; very poor film forming.
C	Poor heat aging and resistance to salt spray and humidity.
D	Poor dielectric strength and film forming, high relative cost.
E	Low solids; poor heat aging and resistance to salt spray.
F	Low solids; very poor arc resistance and resistance to salt spray; poor heat aging.
G	Poor film forming, heat aging and resistance to salt spray.
H	Poor arc resistance, film forming and resistance to humidity.
I	Low dielectric strength; very low solids; poor film forming and resistance to salt spray; very high relative cost.
J	Low solids and dielectric strength; poor film forming and resistance to salt spray; high relative cost.

G-E PAINTS AND GLYPTALS*
(Continued)

G-E No.	Color	Thinner	Method of Application	Wt per Gal. Lb	Baking Time—Hours			Average Air Drying Time Hours	Typical Uses and Properties
					100C	125C	150C		
880	Red	Denatured Alcohol	Brush or Spray	8.5				1	A quick drying adhesive for assembling gaskets in transformers, high voltage bushings, etc.
1201	Gloss Red	1500	Brush, Dip or Spray	9.75	5	2	1	8	For general use with insulation or electrical apparatus. Excellent adhesion, resistance to heat, oils and acids; high arc resistance and dielectric strength. Used as a finish for commutator ends, collector rings and shells, field windings and similar applications.
1201-B	Gloss Red	1500	Brush or Spray	11.5	2½	1	½	4	Similar to G-E 1201 in properties, but is heavier in consistency. Used mainly for sealing purposes.
1206	Semi-gloss Blue Gray	Replaced by G-E No. 7496.							
1209	Semi-gloss Black	1500	Spray, Brush on Small Areas Only	10.8	5	2	1	8	A general indoor apparatus finish. Has good oil resistance.
1211	Semi-gloss Olive Green	1500	Spray, Brush on Small Areas Only	10.75	5	2	1	8	A general indoor apparatus finish.
1212	Aluminum	1500	Brush or Spray	8.6	5	2	1	8	General purpose finish. Resistant to heat and mild salt at mospheres. For finishing industrial furnaces, small transformers, radiators and similar applications.
1214	Gray	Replaced by G-E No. 7496							
1217	Gray	Replaced by G-E No. 7496							
1224	Black	Replaced by G-E No. 7815							
1228	Gloss Med Gray	Petroleum Spirits	Brush or Spray	9.75				Handle 4–5	General purpose apparatus finish.
1234	Gloss Red	Petroleum Spirits	Brush or Spray	7.7				Handle 4–5 Hard: 15	For outdoor use on high voltage apparatus and miscellaneous parts subject to exposure to mineral oil.
1237	Blue Gray	Replaced by G-E No. 2704-A							
1242	Gloss Black	Replaced by G-E No. 7815.							
1248	Red Primer	Petroleum Spirits	Brush or Spray	15.1	...	1	½	Handle 4 Hard: 15	Protective primer for general use on metal. Contains rust inhibitive pigments.
1257	Gloss White	Petroleum Spirits	Brush or Spray	10.8				Handle 8 Hard: 15	A general apparatus paint where a white finish is required For indoor and outdoor service.
1261	Gloss Black	Petroleum Spirits	Brush or Spray	7.7				Handle 4–6 Hard: 15	A general apparatus paint, for indoor or outdoor service.
1262	Black	Replaced by G-E No. 1209							
1272	Red Primer	Petroleum Spirits	Brush or Spray	10.8				Handle 4–6 Hard: 15	Iron oxide primer for apparatus. Used where a "lead free" primer is required.
1595	Semi-gloss Black	1500	Brush or Spray	8.5				Handle 4 Hard: 12	Chemical-resistant paint for subway transformer equipment subject to acid, moisture and alkali exposure.
1596	Red Primer	1500	Spray, Brush on Small Areas Only	10.6				4	Chemical-resistant primer for subway transformer equipment.
2600	Gloss Black Lacquer	1514	Spray	8.2				½	Insulating and finishing where oil-proof coating is desired, or first coat on windings before forming, after assembly and as a finish over synthetic baking varnishes.
2608	Semi-gloss Pearl Gray Lacquer	Replaced by G-E No. 9077.							
2610	Black Lacquer	Replaced by G-E No. 2600							
2704-A	Gloss Blue Gray	Petroleum Spirits	Brush or Spray	11.6				Handle 4 Hard: 15	For finishing apparatus.
7496	Semi-gloss Blue Gray	1500	Spray	9.8				Handle 1 Hard: 4	For finishing apparatus; recommended for indoor service.
7557	Gloss Blue Gray	Replaced by G-E No. 2704-A.							
7696	Gloss Blue Gray	1500	Spray, Dip or Flow	10.3	...	...	½	4	For finishing transformers. Has good durability, gloss and color retention.
7710	Red Primer	1500	Spray, Dip or Flow	13.6	...	...	½	...	Protective primer for general use on metal. Contains rust inhibitive pigments.
7815	Gloss Black	1500	Brush or Spray	8.1	3	2	1	4	Finishing motor fields and armature coils, end windings of motors and similar applications. Similar in properties to No. 1201, except for color.
9077	Semi-gloss Light Gray	1514	Spray	9.0				½	For finishing apparatus.

* Reg. U.S. Pat. Off.

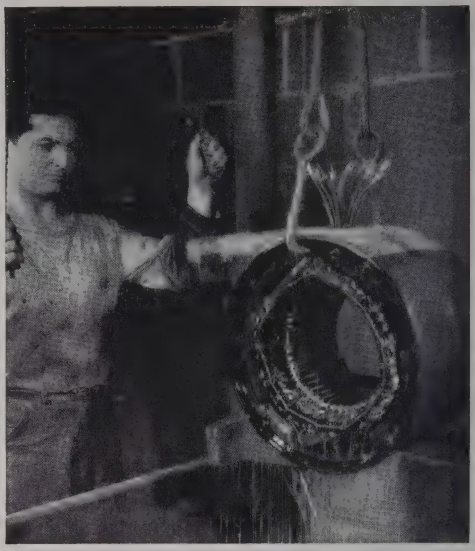
G-E INSULATING VARNISHES

There is a G-E Insulating Varnish for every application

Insulation that is applied in the form of varnishes has considerable practical value in the construction of electrical apparatus. Although the usual conception of a varnish is that of a surface coating, varnishes for electrical insulation are extensively used for filling (a) the spaces in porous insulation, and (b) the interstices between coil turns and assemblies of transformers and all forms of rotating apparatus. In addition, varnishes are of course useful for building up film insulation upon wires, coils, and coil assemblies. Finally, varnishes are often useful in bonding coils and winding assemblies, as in transformers or in cementing together mica splittings to produce built-up mica insulation.

Varnishes are thus useful in filling, filming, and fastening—they provide insulation in a form that is difficult to obtain from any other type of insulating material.

The General Electric Company has always maintained the quality of its varnishes by constant research, rigid quality control, and constant improvement in manufacturing processes.



Motor Stator being dipped in G-E Insulating Varnish

The Cost-Saving G-E Insulating Team

The perfect "team" for a thorough insulation job on electrical apparatus is G-E 9574 all-purpose varnish on the inside and G-E 1201 Glyptal* Red on the outside. Each brings out the other's best features to the maximum degree. In actual application it has been found that less G-E 1201 Glyptal Red is required when it is used as a cover coat over G-E all-purpose varnish.

G-E 9574 All-purpose Insulating Varnish

This is a synthetic resin-drying oil varnish designed as a general-purpose insulation to give maximum protection and at the same time be easy to use and handle. It is a thermosetting varnish that cures to a tough, pliable mass, even in the deepest coils. It has excellent aging properties, good build and flexibility, imparting high dielectric strength.

G-E 1201 Glyptal* Red

An insulating, sealing and finishing enamel which is outstanding as a protection for winding under severe service conditions. It has excellent resistance to heat, moisture, chemicals, oil, acid and salt water. It is capable of withstanding high temperatures up to 150° C for thousands of hours without cracking, on static or nonflexed assemblies. G-E 1201 is also used for sealing joints, gasket assemblies, pipe connections, castings and vacuum seals to prevent leakage of oil, gas, water or air. When baked at higher temperatures, it is considerably toughened and its mechanical properties are greatly improved.

G-E Glyptal red being sprayed on end windings of stator

* Reg. U.S. Pat. Off.

PROPERTIES AND USES

PROPERTIES AND USES			SPECIFICATIONS						ELECTRICAL PROPERTIES			
Type of varnish	G-E varnish no.	Typical Uses	Type of base	Per cent Solids Content	Thinner	Viscosity at 25° C C.P. Average	Gravity at 21° C	Flash Point, °F	Dielectric Strength Volts mil	Dielectric Str'th—after 24 hrs. Water Immers'n	Arc Resistance in Seconds	Surface Resistivity in ohms
Black Baking	**9466**	Form and random wound coils, stators, rotors, armature and field coils and form windings requiring multiplicity of dips and bakes. Suited to high voltage machines when it can be well baked.	asphalt and drying oil	50	pet. spirits	300	0.850	100	3000	1200	....	.....
Black	**271**	Quick-drying with an oilproof, glossy finish. Can be used as a temporary coating. Easily removed with a wire brush. Useful in repair work.	spirit gum	41	denatured alcohol	....	0.905	55	400	200	....	.....
Air Drying	**457**	General-purpose, especially useful in treating and finishing pole leads, connection rings, windings, and armature coils. Also on compensators and motors where baking is not practical.	asphalt and drying oil	45	V. M. & P. naphtha	250	0.830	20	1160	400	40	.....
Clear	**9574**	General-purpose, giving maximum protection Treats every type of winding, except very high-speed armatures. Can be used at barrel gravity or thinned.	phenolic drying oil	58	pet. spirits	300	0.950	100	1900	1000	....	.....
Baking	**9535**	Has higher bonding strength than 9574 and is recommended for applications requiring bonding strength and toughness plus fast cure.	synthetic resin and drying oil	53	G-E 1500	750	0.965	78	1790	520	....	.....
Clear Air Drying	**9564**	Quick-drying, suitable for small windings or as a finishing coat, particularly when baked. Not recommended for deep coils or uses where a thermosetting type is needed.	modified phenolic resin and drying oil	52	pet. spirits	250	0.900	95	1540	570	180	.....
Air Drying and Baking	**1201 Red**	Outstanding protection with windings under severe service conditions. Best results obtained by using thin coats. Properties are improved by high-temperature baking.	Glyptal	65	G-E 1500	400	1.14	78	1400	300	480	7.5×10^7
Enamels	**7815 Black**	Faster drying and more flexible than 1201. Used over twine and tapes and spraying completed armatures and stators, especially over black varnishes for high oil resistance.	Glyptal	44	G-E 1500	450	.995	78	1680	688	240	1×10^{12}

E—Excellent. G—Good. F—Fair. P—Poor.

		Film Properties								Cure and Aging			Chemical Properties					Baking Cycles (minimum in hours)					Air Drying Time
Type of Varnish	G-E No.	Build Relative	Adhesion	Toughness	Hardness	Flexibility	Penetration	Bonding	Bonding—High Temp	Through-cure (cup test)	Aging Flexibility (100° C)	Aging Static Test (150° F) (reds)	Water	Acid	Alkali	Oil	Salt Water	100° C–212° F	110° C–230° F	125° C–257° F	135° C–275° F	150° C–300° F	Air Drying Time In Hours
Black Baking	**9466**	G	G	F	F	G	G	G	F	P	E	E	G	G	G	E	E	15–18	12–15	5–8	3–6	2–4	.....
Black	**271**	G	P	P	E	P	G	G	P	P	P	P	P	F	P	G	P	.....	.....	.....	.....	.....	½–1
Air Drying	**457**	E	G	P	P	F	F	F	P	G	P	P	E	E	E	P	E	4–6	3–5	2–4	1–3	1–2	2–2½
Clear Baking	**9574**	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	12–15	8–10	4–6	3–5	2–4	.....
	9535	E	E	E	E	G	E	G	G	E	F	E	E	E	G	E	E	10–12	6–8	5–7	4–6	2–5	.....
Clear Air Drying	**9564**	G	G	G	G	G	G	G	P	F	G	G	E	E	G	G	E	10–12	6–8	4–6	2–4	1–3	4–6
Air Drying and Baking Enamels	**1201–Red**	E	E	E	E	F	P	P	P	F	P	E	F	G	F	E	G	5–8	4–6	2–3	1–2	½–1½	2–8
	7815–Black	F	G	G	G	F	P	P	P	F	E	E	G	E	P	E	F	3–4	2–3	1–2	1–2	1–2	1–4

G-E SEALING AND FILLING COMPOUNDS

Sealing compounds are those used for sealing by filling (a) interstitial spaces in windings, as in revolving a-c fields, (b) between coils and case, as in transformers, or (c) over screw and bolt heads, as in receptacles, sockets, and other wiring devices. They are not suitable for penetrating pores and capillaries of cotton, paper, or other porous materials because they contain finely ground mineral matter, such as flint, talc, cement, marble, dust, etc. The active bond is usually a solid, such as asphalt, resins (natural or synthetic), pitch, or wax and sometimes a varnish.

Filling or treating compounds are made specifically for the penetration of porous materials, such as wood, asbestos board, cloth, and paper. The purpose is to fill or nearly fill the pores of low-value insulation in order to increase the dielectric strength and exclude air, moisture, or other deleterious material. Made of waxy or asphaltic materials, these compounds are easily brought to a liquid of uniform consistency by heating them.

DESCRIPTIVE TABLE

G-E No.	Color	Type of Base	Weight Per gal in lb	Flow Point Deg C	Flash Point Deg C	Fire Point Deg C	Pouring Temp Deg C	Characteristics	Recommended for
227	Black	Asphalt	7.6	65–75	260	290	165	A black wax-like cable joint compound with a flow point of 65-75 deg C. Pour point 165 deg C. High dielectric strength.	Filling cable and bells, cable joints and in coupler sockets, where desirable to melt out without injury to molded compound.
805	Brown	Clear Varnish	13.5	Infusible	.....	.....	Applied as Putty	A brown putty-like filling compound prepared from inorganic materials and quick-drying varnish. By baking it for several hours at a temperature of 100 deg C, it becomes a hard, stone-like mass.	Filling in armature windings between the coils and back of leads to eliminate pockets which might catch dust or oil, also as a space filler between primary and secondary windings of transformers.
1282	Brown	Glyptal	12.25	Infusible	.....	.....	Applied by Brushing or as a Putty	A heavy synthetic resin (Glyptal) compound, which after baking becomes extremely tough and heat-resistant. Applied by knife or brush.	Equipment where a smooth mechanically strong protective coat is desired as for example on end windings of textile motors which must be completely covered and smoothed over.
1338	Black	Asphalt and Oil	8	118–122	330	.....	.....	A black, asphaltic sealing compound with high insulation value. It is waterproof but not oilproof.	For treating air-cooled transformer and field coils by the vacuum process.

PROPERTIES TABLE

G-E no.	Viscosity		Temp at Which Cracking occurs Deg C	Coef of Expansion X10–4	Thermal Resistivity "Thermal ohms" (deg C per cm per watt per sq cm)	Effect of Mineral Oil	Dielectric Strength (Short-time Test) Thickness = 0.1 in.	
	Temp deg C	Centipoises					Temp deg C	Kv
227	.....	.....	–10	5	450 x 10^{12} @ 25 C		25	40
						soluble	85	23
805	.....	.....	.....	.....	.....	resistant	25	10
1282	.....	.....	.....	.....	.....	insoluble	.....	.....
1338	.....	.....	.....	.....	.....	soluble	.....	.....

G-E CEMENTS AND ADHESIVES

G-E cements and adhesives have been developed primarily for industrial applications, mainly in the electrical industry. They have been designed for specific uses, and are not generally interchangeable.

There are four general types which include Glyptal cements, thermoplastic adhesives, thermosetting adhesives and processing adhesives. The Glyptal cements were developed for general cementing applications, mostly for fibrous and cellulose materials. The thermoplastic adhesives are designed for heat-sealing and temporary bonding applications. The thermosetting adhesive is for bonding various insulations and to give high bonding and temperature resistance. The processing adhesives were developed for temporary low-strength bonds and for the processing of electrical apparatus.

Glyptal Cements

G-E No.	Type of Base	Viscosity C.P. Avg. at 25 C	Thinner	Flow Pt. Deg. C.	Avg. Air Drying Time in Hours	Characteristics	Recommended for
1276	Cellulose ester	8000–11000	See Note	.....	¼	Good bonding strength, mechanical ageing and stability; fast tack time; fair flexibility; fair electrical and chemical resistance. More viscose than G-E 1286. Not recommended for conditions of high humidity or temperatures above 212 F (100 C).	Cementing porcelain, paper, cloth, metal, aluminum, some classes of rubber, and for industrial applications.
1278	Replaced by GE No. 1276						
1286	Cellulose ester	5500	See Note	.....	¼	Good bonding strength, mechanical ageing and stability; fast tack time; fair flexibility, electrical and chemical resistance. Less viscose than G-E 1276. Not recommended for high humidity or temperatures above 212 F (100 C).	General household use, cementing porcelain, paper, cloth, metal, aluminum, and some classes of rubber.

Note: The cement as supplied is suitable for most applications. If necessary to thin, use G-E thinners as follows:
G-E No. 1511F (Fast drying). Used when cementing dense surfaces.
G-E No. 1511M (Medium drying). For general cementing purposes.
G-E No 1511S (Slow drying). Used when covering large surfaces.

Thermoplastic Cements

1688	Polyvinyl	1200	Toluol	120–190	½	Good bonding strength; fast tack time; excellent resistance to moisture, oil and gasoline; good mechanical and electrical strength; excellent flexibility and good stability.	Cementing speaker cones to metal cone housings; for mounting quartz crystals; cementing cellulose materials, cloth, felt, feather and synthetic film or sheet materials.
2142	Polyvinyl	90–160	Toluol	125–140	½	Good bonding strength; fast tack time; excellent resistance to oil, moisture and gasoline; good mechanical and electrical strength and good stability; excellent flexibility. Not as tough or as hard as G-E 1688.	Cementing cellulose materials, cloth, felt, leather and synthetic film or sheet materials such as pliofilm, cellophane as well as a variety of plastics; permanent and temporary mounting and cementing applications; for mounting quartz crystals and similar industrial uses.
2160	Replaced by G-E No. 2142.						
2187	Replaced by G-E No. 2142.						

Thermosetting Adhesives

7031	Polyvinyl phenolic	1000–1500	See Note	150–160	¼	Air-drying and heat-convertible; high bonding strength; fast tack time; excellent chemical and moisture resistance; excellent mechanical and electrical strength; very good temperature resistance and good flexibility.	Cementing metal to metal and metal to various synthetic and treated rubbers, glass, cellulose and a variety of porous and non-porous materials; superior for bonding laminations because of its higher temperature resistance when baked.
7049	Phenolic-synthetic	1600	See Note	.....	2-4	Excellent bonding strength at high temperatures.	Bonding small high speed armatures, cementing field coils and in other applications where high bond strength and toughness plus rapid low temperature cure are required.

Note: The cement as supplied is suitable for most applications. If necessary to thin, use G-E thinners as follows:
G-E No. 9424 (Fast drying). Used when cementing dense surfaces.
G-E No. 9428 (Slow drying). Used when covering large surfaces.

Processing Adhesives

208	Natural gum	1300	Toluol	.....	½	General-purpose adhesive having a good bond with a fast dry to a tacky condition. Used for holding material in place during subsequent varnish treatment. Mainly used as a temporary adhesive.	Cementing varnished cloth and varnished cloth tape, paper and mica tape to armature coils and windings during manufacture and for attaching asbestos to metal; for holding materials in place during varnish treatment.
1153	Glyptal	150	G-E 1505	.....	4-6	Valuable where oil resistance and flexibility are important. Slow-drying with a long tacky period. Excellent build and good adhesion and hardness.	Cementing lead connections and screw heads in electronic and mechanical devices; cementing varnished cloth and tape, and with taped leads for transformer oil stops.
ZV903	Glyptal	125	G-E 1505	.....	4-6	Same as No. 1153 but colored purple.	Cementing lead connections and screw heads in electronic and mechanical devices where a distinctive color is required for identification.

G-E SILICONE INSULATIONS

General Electric's silicone bonded and treated insulating materials provide new class of electrical insulation. This Class H insulation permits continuous operation of electrical machinery at a hot-spot temperature of 180° C which is between 50°–75° C above the operating temperatures of conventional insulating materials. G-E silicones also provide an unusually high overload safety factor. They easily withstand temperature of 200° to 250° C for limited periods thus saving expensive rewind costs resulting from burned-out insulation. Other advantages of G-E silicone insulating materials include: High dielectric properties, excellent electrical loss factor, and resistance to corrosive action. G-E silicone insulating materials also permit the manufacture of smaller and lighter units than is possible with ordinary organic insulation. This is of particular value in applications where space limitations are a factor.

SILICONE BONDED MICA-GLASS CLOTH FLEXIBLE SHEET INSULATIONS

These are composite structures consisting of G-E silicone varnished glass cloth and mica splittings bonded with G-E silicone varnish. Standard 36 inch x 36 inch sheets

G-E no.	description	thickness inches	application
77500	.002 inch silicone varnished cloth, mica on one side.	.0035	Cell wrappers.
77501	.003 inch silicone varnished cloth, mica on one side.	.005 .006	Cell wrappers.
77502	.002 inch silicone varnished cloth on both sides, mica between.	.005 .007	Slot liners, phase insulation, core and end insulation.
77503	.007 inch silicone varnished cloth, mica on one side.	.008 .009	Slot liners, phase insulation, core and end insulation.
77504	.004 inch silicone varnished cloth on both sides, mica between.	.010 .012	Slot liners, phase insulation, core and end insulation.
77505	.007 inch silicone varnished cloth on both sides, mica between.	.015 .018 .020	Slot liners, phase insulation, core and end insulation.
77506	.007 inch silicone varnished mica cloth, and .010 inch silicone varnished cloth.	.020	Slot liners, phase insulation, core and end insulation.

SILICONE VARNISHED GLASS CLOTHS

A continuous filament glass cloth treated with high temperature G-E silicone varnish. This material embodies the advantages of the good physical characteristics of glass cloth as in the case of conventional varnished glass cloth, and, in addition, it will withstand appreciably higher operating temperatures because of the heat resisting properties of the G-E silicone varnish. G-E silicone varnished glass cloth is recommended principally for use as slot wrappers on coils subjected to high temperatures and extreme moisture conditions.

G-E no.	description	finished thickness inches
76500	.002 inch cloth continuous filament	.003 .004 .005
76501	.003 inch cloth continuous filament	.007
76502	.007 inch cloth continuous filament	.010
76503	.010 inch cloth continuous filament	.012

36 inches wide, standard rolls contain 25, 50 or 100 yards

SILICONE VARNISHED GLASS CLOTH TAPES

G-E no.	nominal thickness inches	thickness of base cloth-inches	width inches	sq yd per roll
76500	0.003 0.004 0.005	0.002 0.002 0.002	½	½
			¾	¾
76501	0.007	0.004	1	1
76502	0.10	0.004	1¼	1¼
			1½	1½
76503	0.012	0.010		

Standard rolls contain 36 yards.

SILICONE BONDED MICA-GLASS CLOTH TAPES

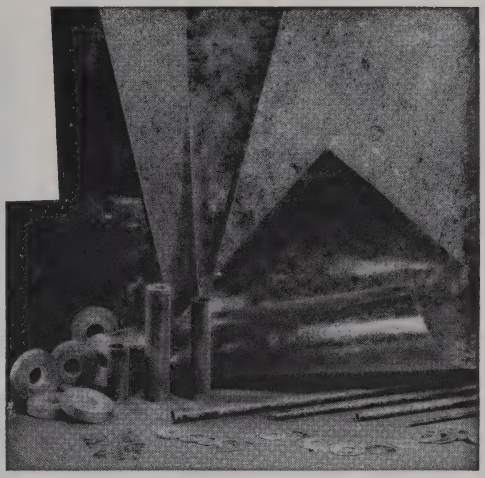
For use where good dielectric strength is required and where high temperatures are encountered. Standard 36 yard rolls.

G-E no.	thickness inches	width inches	description
77600	0.004	½, ¾, 1	White India mica splittings with 0.0015 inch unvarnished glass cloth on one side, paper on reverse side, and bonded with G-E silicone varnish.
77601	0.0035 0.005	½, ¾, 1 ½, ¾, 1	White India mica splittings with 0.0015 inch untreated glass cloth on one side, no-facing on reverse side, bonded with G-E silicone varnish.

G-E MICA INSULATION

When properly selected and processed, mica has exceptionally good electrical properties, high dielectric strength, very low power factor and stability under varying weather conditions and over a wide range of temperatures. However, its resistance to oil, water and alkalies depends on the bonding material used. As a result, the insulating value of mica is largely determined by the bonding material and manufacturing process.

Shellac gives fair flexibility and fair chemical resistance, and shows excellent electrical properties. For high flexibility, a special G-E insulating varnish is used in making mica sheets and tapes. This varnish gives added resistance to heat and chemicals, excellent electrical properties and good mechanical strength.



G-E no.	Kind of Mica used	Pasting Varnish	Thickness Range Inches	Thickness Var. Aver. Inches Plus	Thickness Var. Aver. Inches Minus	Approx. Weight Per cu in. lb	Approx. Size of Sheets Inches	Principal Uses
Segment Mica Plate								
140	White or Amber ◇	Shellac	0.020–0.062	0.001	0.001	0.092	25 x 37	Commutator segment insulation.
848	White or Amber ◇	Glyptal	0.020–0.062	0.001	0.001	0.092	25 x 37	Commutator segment insulation.
131	White	Shellac	0.010–0.062	0.002	0.002	0.082	25 x 37	Used for molding or forming into commutator cones; flanged rings, collars, shell insulation and miscellaneous molded parts such as channels for slot or shaft insulation.
852	White	Glyptal	0.010–0.156	0.002	0.002	0.086	25 x 37	Same as No. 131.
Heater Mica Plate								
146	White or Amber ◇	Glyptal	0.010–0.015	0.003	0.003	0.096	25 x 37	Used in heating devices such as ironing equipment where heat resistance is of importance.
Flexible Mica Plate								
1742	White	Glyptal	0.005–0.062	0.003	0.001–0.005	0.074	25 x 38	Useful where it is desired to wrap on the mica insulation in sheet form. Used extensively as insulation in armature slots, under end windings, at crossovers, under terminals of field coils, etc.

Mica Tapes

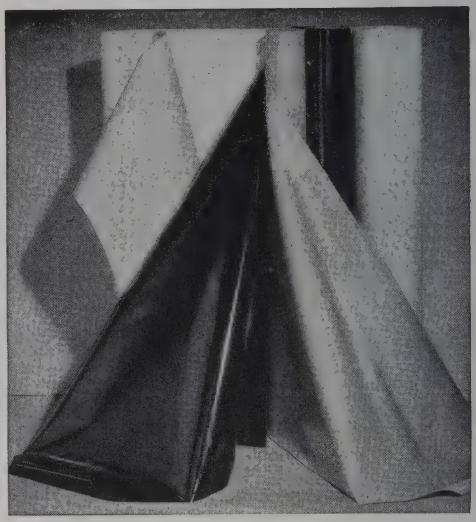
G-E no.	Type	Backing Material	Aver. Thickness and Tolerance	Standard Length of Rolls, ft	Approx. Wt Stand. Roll 1 in. Wide, lb	Varnish Type	Principal Uses
127	paper-backed, with clear gum or synthetic type binders	paper both sides	0.004 ±0.0005	160	0.40	gum	Turbine generator field coils and in applications where it is not practical to mold coils after winding.
1604	same as 127	paper both sides	0.0055 ±0.001	123	0.56	gum	Railway coils where heavier tape than No. 127 and where greater thickness variation can be used. End wound field coils.
1769	cotton cloth and paper-backed, with asphaltic or clear gum type binders	cotton cloth on one side, paper on other	0.006 ±0.0005	123	0.43	gum	Railway stator coils or where tape of higher mechanical strength of type similar to No. 127 is required.

Mica Composite Insulation

G-E no.	Description	Pasting Varnish Type	Thickness Range Inches	Approx. size Of Sheets Inches	Principal Uses
1736	Consists of white mica between one sheet of rope paper and one sheet of tissue paper.	Glyptal	0.007, 0.010 and 0.015	36 x 36	Used on armatures and transformers in moderate voltage and temperature applications.
1739	Consists of white mica between two sheets of tissue paper.	Glyptal	0.005, 0.008 and 0.011	36 x 36	For insulating high-voltage coils and bars.
1768	Consists of flexible mica between a sheet of rawhide fiber and a sheet of tissue paper.	Glyptal	0.010, 0.012, 0.015 and 0.020	36 x 36	Used as slot insulation where nigh mechanical strength is required.

◇ Drawings and orders should definitely indicate the kind of mica required; i.e., "white" or "amber".

G-E VARNISHED CLOTH AND TAPE



General Electric varnished cloths have many advantages which make them particularly desirable for insulating various forms of electrical apparatus. Because of their flexibility and high mechanical strength, they may be wound or wrapped tightly in place on many different devices such as cables, armature, field, transformer, and various types of coils. Their high dielectric strength, greater resistance to moisture, and superior heat-aging characteristics make them preferable to untreated fabrics.

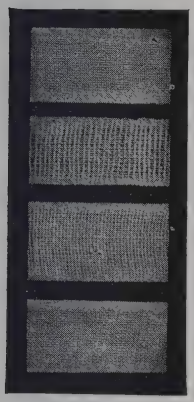
Quality Controlled

The base cloth used in G-E tapes is selected for its high mechanical strength and controlled sizing content. This permits thorough penetration by the treating varnishes. The varnishes are chemically inert in relation to the cloth to which they are applied, producing varnished cloth tapes which have high dielectric strength, permanent flexibility and high resistance to heat, oil and water.

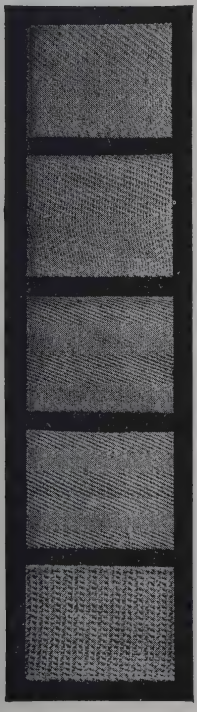
type	color	G-E no.	thickness inches	tensile strength lb per inch width	tearing strength crosswise GMSforce	dielectric strength short time ASTM volts per mil 25C	dielectric strength short time ASTM volts per mil 75C	weight pounds per 1000 sq in	typical uses
straight cut	black	**505**	0.005	42	150	1500	1300	0.216	Wrapping motor coils; and general insulating use where a high dielectric strength straight cut tape is required & where oil resistance is not a factor.
		505	0.007	53	199	1350	1250	0.335	
		505	0.010	57	246	1250	1200	0.420	
		505	0.012	60	280	1350	1250	0.490	
	yellow	**510**	0.005	40	...	1400	1200	0.220	Wrapping coils; insulating transformers; particularly advantageous for use in applications where varnished cloth is exposed to oil.
		510	0.007	44	340	1400	1200	0.281	
		510	0.010	50	342	1100	1000	0.470	
		510	0.012	51	360	1100	1000	0.530	
	yellow (Glyptal)	**1780**	0.010	54	323	1000	800	0.455	Used on transformers and in applications where maximum resistance to oil is required or resistance to mechical abrasion is of importance.
		1780	0.012	57	373	1000	800	0.580	
bias	black	**992**	0.007	48	...	1250	950	0.318	For insulating cable joints, coil ends and irregular shapes.
		992	0.010	50	...	1400	1225	0.433	
		992	0.012	50	...	1500	1250	0.533	
	black	**1786**	0.010	50	...	1400	1200	0.433	Same as No. 992 but where better resistance to oil is required or where greater abrasion resistance is desired.
		1786	0.012	50	...	1350	1200	0.533	
	yellow	**991**	0.007	45	...	1050	900	0.309	Same as No. 992 but particularly useful where good oil resistance is required.
		991	0.010	45	...	1250	1000	0.415	
		991	0.012	45	...	1250	1100	0.506	
	yellow (Gyptal)	**1782**	0.010	50	...	1000	800	0.455	Same type of applications as for No. 1780 but where a bias type cloth tape is required.
		1782	0.012	50	...	1000	800	0.580	
	black	**634**	0.007	..	...	1200	1000	0.318	An oil packed tape (but not vacuum-processed) having a higher electrical factor-of-safety than No. 992. Used for insulating solid-filled joints in oil-treated paper or varnished-cloth insulated cables rated 23 kv and less.
		634	0.010	..	...	1400	1200	0.433	
		634	0.012	41	...	1400	1200	0.533	

HOPE TAPE AND WEBBING

The tapes and webbings listed below are made of the best quality of material by most careful and efficient operatives. They are woven with selvage which adds to their mechanical strength, and the greatest pains are taken to insure uniformity of quality, texture, width and thickness. In each of the grades listed the materials are standard.



Cat. No.	Wdth. In.	Thick. In.	Price Per Gro. Yds.
Standard			
13869	½	.007	$1.65
19002	⅝	.007	1.90
13870	¾	.007	2.00
13871	1	.007	2.50
13872	1½	.007	3.80
Light Weight			
29257	½	.007	1.35
29850	⅝	.007	1.50
29258	¾	.007	1.60
29259	1	.007	1.80
29260	1½	.007	2.85
Standard .005			
28799	½	.005	1.60
25002	⅝	.005	2.00
25003	¾	.005	2.15
8844	1	.005	2.60
Silk			
24931	¼	.005	3.75
24932	⅜	.005	4.40
24934	½	.005	4.80
24935	⅝	.005	5.40
24936	¾	.005	5.85



Heavy			
8730	1	.019	4.00
9982	1¼	.019	5.30
1613	1½	.019	6.10
9999	2	.019	8.40
Light Stay			
6291	1	.011	3.35
6290	1¼	.011	4.40
6289	1½	.011	5.10
Stay Webbing			
22390	½	.015	2.00
22394	¾	.015	2.45
22398	1	.015	3.10
Common			
25007	½	.011	2.60
13100	¾	.011	3.35
16628	1	.011	4.20
Standard Surgical			
5281	¾	.011	4.10
5224	1	.011	4.95
5298	1¼	.011	6.40
8870	1½	.011	7.35
9058	2	.011	10.00
Non-elastic			
24732	½	.030	2.85
25020	¾	.030	3.55
29053	1	.030	4.30
14671	1¼	.030	5.65
29262	1½	.030	6.35

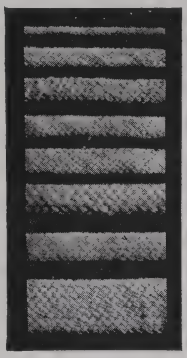
HOPE COTTON SLEEVING

COTTON SLEEVING

Hope sleevings are made with the greatest care and represent a maximum of uniformity in manufacture and of saving in application.

Wound in units of one, five and ten pounds, in white (unbleached), black, red, blue, standard colors.

Colors, additional per pound.....$0.70



No.	B. & S. Bare Wire	Yards Per Lb.	Price Per Lb.
0	14 to 20	600	$3.50
1	11 to 13	240	2.30
2	7 to 9	180	2.10
3	9–10	175	2.30
4	5 to 7	210	2.65
5	5	115	2.00
6	3–4	110	2.20
8	1–2	75	2.00

J-M ASBESTOS MILLBOARD AND PAPER

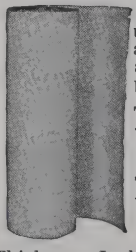
ASBESTOS MILLBOARD

Made of asbestos fibre and a suitable binder. Recommended for general uses requiring sheet or board as a fireproof lining for floors, partitions, ceilings, elevator shafts, ranges, stoves, grates, etc. Made in hard, medium and soft grades. Medium furnished unless otherwise specified.

Standard sheets 42x48 inches.

Thickness Inches	Wt. Lb. Per Sheet	Thickness Inches	Wt. Lb. Per Sheet	Inches Thickness	Sheet Wt. Lb. Per
1/32	2.5	1/8	9	3/8	25.2
3/64	3.5	5/32	11.3	1/2	32.5
1/16	4.6	3/16	13.3	5/8	40.0
5/64	6	1/4	17.6	3/4	46.6
3/32	7	5/16	21.4	------	------

ASBESTOS PAPER AND ROLL-BOARD



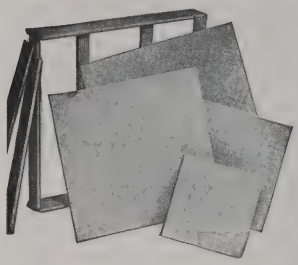
Made of long fibre asbestos. Its use is large and varied especially as a fire retardent. In rolls, 18, 24 and 36 inches wide. 50 or 100 pounds per roll.

Thickness, Inches ..	.015	.019	.022
Wt. Per 100 Sq. Ft., Lbs.	6	8	10
Thickness, Inches ..	.027	.029	.032
Wt. Per 100 Sq. Ft., Lbs.	12	14	16
Thickness, Inches	1/16	3/32	1/8
Wt. Per 100 Square Feet, Lbs.....	32	48	64

Prices on application.

J-M ASBESTOS EBONY AND TRANSITE

STANDARD TRANSITE



Transite is the leading fire-resistant material which is designed for use where dielectric strength is not required. It is composed of asbestos fibre and cement which are combined under tremendous pressure into a homogeneous, dense mass having great strength and unusual durability. It is light gray in color and weighs approximately 124 lb. per cu. ft.

Transite is adapted for use as a barrier wherever an arc may possibly occur. It is not an electrical insulator and it cannot be used for the mounting of current carrying parts as can J-M Asbestos Ebony although Transite's resistance to heat, flame and arc is substantially greater.

Transite is utilized for housing many types of electrical apparatus and for building various electrical appliances. A partial list of these follows:

Barriers between outdoor transformers, enclosing outside switches and other electrical equipment; for cable ducts and trays; resistance bases and housings; arc barriers or partitions; arc deflectors for controllers; and electric ovens, etc.

Nominal sheet sizes: ¼ to 2-inch thickness, 36x48, 42x48; ¼ to 2-inch thickness, 42x96, 48x48 and 48x96 inches.

Thickness In.	Wt. Lbs. Sq. Ft. Uncrated	Wt. Lbs. Sq. Ft. Crated	Thickness In.	Wt. Lbs. Sq. Ft. Uncrated	Wt. Lbs. Sq. Ft. Crated
¼	2.7	3.1	⅞	9.0	10.4
5/16	3.3	3.9	1	10.3	12.3
⅜	4.0	4.6	1¼	12.2	14.2
½	5.2	6.0	1½	14.6	18.0
⅝	6.5	7.5	1¾	17.0	20.5
¾	7.8	9.1	2	19.4	23.0

Prices on request.

ASBESTOS EBONY

J-M Asbestos Ebony is regularly furnished with a fine, smooth surface, lacquered on one side in deep, everlasting black "switchboard" finish.

It is a sheet, ebony-like in appearance, used for switchboards, controller plates, switch bases, busbar supports, etc. It is purely a mineral product, composed of asbestos fibre and binding cement, bonded under tremendous pressure, impregnated with a special insulating compound, and capable of enduring severe conditions. Because of its structure, it will withstand shock and vibration, is unaffected by rapid temperature changes, will not shrink, crack or buckle, and is uniform in texture throughout.

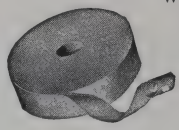
Size sheets: ⅛- and 3/16-inch thickness, 36x48 inches only; ¼- to 2-inch thickness, 42x48, 48x48, 42x96 and 48x96 inches; 2½- to 4-inch thickness, 42x48 and 42x96 inches.

Thickness In.	Wt. Lb. Sq. Ft. Crtd.	Thickness In.	Wt. Lb. Sq. Ft. Crtd.	Thickness In.	Wt. Lb. Sq. Ft. Crtd.
⅛	1.5	⅝	7.5	1¾	21.0
3/16	2.3	¾	9.0	2	24.0
¼	3.0	⅞	10.5	2½	30.0
5/16	3.8	1	12.0	3	36.0
⅜	4.5	1¼	15.0	3½	42.0
½	6.0	1½	18.0	4	48.0

Prices on request.

JOHNS-MANVILLE ASBESTOS LISTINGS

WOVEN TAPE



A fireproof, flexible woven tape suitable for wrapping all forms of wires, cables and coils and for motor and transformer windings. Listings are all closely woven and have a smooth surface with the exception of thicknesses 0.025-inch and lower which have a more open weave than the other styles as a more exact thickness must be maintained. No. 1096, is more closely woven and much stronger than No. 1091.

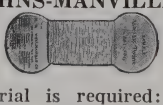
Width, Inches	Underwriter's Grade: No. 1055 plain, 0.020" thick	No. 1064 plain, 0.025" thick	No. 1065 plain, 1/32" thick	Commercial Grade: No. 1073 plain, 1/32" thick	No. 1091 wire-inserted, 1/16" thick	No. 1091 plain, 1/16" thick	No. 1096 plain, 1/16" thick
	Approximate Feet Per Pound						
½	240	166	122	122	64	84	76
¾	178	110	82	82	45	56	50
⅞	161	95	73	73	36	48	43
1	133	80	65	65	32	42	39
1¼	106	66	54	54	27	34	30
1⅜	94	61	48	48	25	31	28
1½	83	55	43	43	22	28	25
2	----	41	33	33	17	21	19
2½	----	----	----	----	13	17	15
3	----	----	----	----	11	14	13
	Approximate Feet Per Roll						
½	100	100	100	100	100	100	100
¾	100	100	100	100	100	100	100
⅞	100	100	100	100	100	100	100
1 to 3	150	150	150	150	150	150	150

J-M FIBROID ASBESTOS PAPER TAPE

Thin, fireproof asbestos papers, made from specially selected fibre. Their use is particularly adapted to the electrical field, offering protection and insulation to such units as electrical heaters and thermal operating devices.

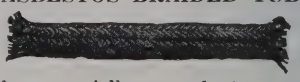
Thickness, Inches: Nominal	Minimum	Maximum	Approx. Lbs. Per 100 Sq. Ft.	Approx. Lin. Ft. Std. Roll 7" Dia.	Approx. Feet 1" Wide Per Lb.
.012	.010	.014	4.2	260	300
.016	.014	.018	6.0	195	200
.018	.016	.020	8.0	175	150
.022	.020	.024	10.0	145	120
.026	.024	.028	12.0	120	100
.029	.027	.032	14.0	110	86
.032	.030	.035	16.0	100	75
.062	.060	.067	32.0	50	37

JOHNS-MANVILLE ASBESTOS YARNS



Asbestos yarns can be furnished for all purposes where a heat resisting or fireproof material is required: packing flexible metallic tubing, braiding over wire, etc. Can be furnished commercially pure or higher graded, with or without wire. Prices on request.

J-M ASBESTOS BRAIDED TUBING



Made of commercially pure asbestos yarn braided into tubing 3/64 to 1⅜ inch. Generally used where a flexible protection against heat, flame or chemicals is desired and where asbestos in tubular form is the most convenient and practical to apply. Waterproofing and insulating compounds may be applied. when ordering state diameter of wire to be covered. Prices on request.

JOHNS-MANVILLE CABLE INSULATION

J-M NIAGRITE

Commercially pure asbestos felted tape, supplied in widths 1½, 2 and 3 in. and in thicknesses of ⅛ in. and ¼ in. Unless otherwise ordered, 15-ft. rolls will be supplied. Niagrite is furnished in the following four types: Niagrite A, backed with asbestos cloth; Niagrite B, backed with a burlap cloth reinforcement; Niagrite C and Niagrite D, without reinforcement.

Niagrite D is not as high in quality as the other types and, especially when wet, is not as flexible or strong. Niagrite D is supplied only in ⅛-in. thickness, 2 or 3 in. wide. The type most generally selected is Niagrite B, which combines strength with economy.

A thickness of at least two ⅛-in. layers of Niagrite is recommended; the width should approximate the diameter of the cable.

J-M ASBESTOMENT S

J-M Asbestoment S is an efficient refractory material furnished in powder form in 100-lb. bags. Mixed with water, it is applied as an outer protective coating over the Niagrite to a thickness of approximately ½ in., or at least ⅜ in. The material weighs 70 lb. per cu. ft., dry. The coverage, 1 in. thick per 100 lbs., is 12 sq. ft. Asbestoment S possesses high arc resistance, excellent workability and adhesive qualities. It is very low in alkalinity, not nearly as alkaline as cement and sand, and is not sensitive to contamination.

The Niagrite-Asbestoment combination consists of an outer refractory coating, which resists the shock of an impinging arc, and a softer inner felt wrapping, which protects the cable from the heat of arcs and manhole fires.

J-M FRICTION TAPE

A general all-purpose black tape made from cotton sheeting averaging well over 40 lb. tensile strength per inch of width, thoroughly impregnated with an insulating compound and coated with a carefully formulated adhesive rubber composition. This tape has high dielectric strength, strong adhesive properties, exceptionally few pin holes and good footage per dollar value. It is non-raveling and possesses excellent aging properties. The tape is packed in individual cartons.

Width of Tape Inches	Roll Size No. 6	Type of Carton	Ft. per Roll Min.	No. of Cart. per Std. Case	Net Wt. of Contents Std. Case, Lb.
¾	8	Paper	60	108	50
¾	4	Paper	22½	216	50

J-M HI-VALUE FRICTION TAPE

A non-raveling black tape, compounded to have a stronger bond than J-M Friction Tape. It possesses superior aging, insulating and electrical properties and meets the requirements of Federal Specification E-HH-T-101a and the American Society for Testing Materials Specification D-69. The tape is packed in individual cartons.

Name of Tape	Width Tape Inches	Roll Size No.	Ft. per Roll Min.	No. of Cart. per Case	Net Wt. of Contents Std. Case, Lb.
Hi-Value	¾	8	82½	108	50
Hi-Value	¾	4	41¼	216	50

FIRESTONE FRICTION TAPE

Firestone Friction Tape is non-raveling, strong, durable and waterproof. It meets the rigid requirements of the electrical industry and is indispensable about the home for dozens of mending and joining requirements. It will not dry out in the roll, holds tight.

No. 4
360-28′ long, ¾″ wide. 361-30′ long, ¾″ wide.

No. 8
360-60′ long, ¾″ wide. 361-67½′ long, ¾″ wide.

Rolls are wrapped in cellophane and individually boxed, or can be purchased without boxes in cellophane only. Special widths can be shipped from factory.

AKRON SPLICING COMPOUND

Akron Splicing Compound, manufactured by Firestone, meets exacting performance tests, self-vulcanizes into a solid, watertight joint, insulates against high voltage, lasts a long time.

No. 4
362-10′ long, ¾″ wide.

No. 8
362-21′ long, ¾″ wide.

Rolls are wrapped in cellophane and individually boxed, or can be purchased without boxes in cellophane only. Special widths can be shipped from factory.

OKONITE TAPES AND SPLICING MATERIALS

MANSON FRICTION TAPE

An **OKONITE** Product

Made only with new rubber which thoroughly impregnates and coats the strong, closely-woven cotton fabrics. Unequalled in true adhesiveness and in aging and weathering qualities. Provides lasting protection for joint.

Rolls ¾-in. wide, containing a minimum of 78 feet, (in ½-lb. cans) supplied unless otherwise specified. Other widths and weights can be furnished.

OKONITE RUBBER TAPE

Compounded only from new, Up-River, fine Para rubber. When wrapped on the joint, it fuses into a homogeneous wall of tough insulation that is impervious to moisture and stays elastic and resilient. Insures highest electrical strength and permanence.

An **OKONITE** Product

Rolls, ¾-in. wide, containing 30 ft., (in ½-lb. cans) supplied unless otherwise specified. Other widths and weights can be furnished.

P & B WEATHERPROOF INSULATING TAPE

Has many valuable properties and diversified uses. Used for years by different industries. Well liked for its dependability and low cost.

Rot proof: P & B Tape cannot decay in any climate, above ground or below ground

High insulating value: When wrapped to overlap itself, has a dielectric strength of 1700 to 2000 volts.

Great adhesion: Will attach itself firmly to any metal, wood, fabric, etc.

Self moulding: P & B Tape gradually moulds together to form a continuous mass over the surface it protects.

Flexible: Remains permanently pliable. Bending and stresses will not break its body in hot or cold weather.

Waterproof: Shields the surface over which it is wrapped against any entrance of moisture.

Containers: Stocked in ¾-inch rolls, 50 rolls to the 25-lb. case.

Prices on request.

B. F. GOODRICH TWO-IN-ONE TAPE

COMBINATION — RUBBER — FRICTION

Two-in-One is made with rubber insulation on both sides of a strong cotton tape. It is useful in all branches of the electrical industry, for inside or outside work. Used by contractors, linemen, in central stations, power plants, street railways, also by radio service men and manufacturers of electric motors and electric appliances of all sorts. Also useful for domestic mending and electrical repairs.

Rolls are wrapped in cellophane and placed in individual boxes, which are shipped in cartons containing 20 rolls, weighing approx. 10 pounds. Tape no longer sold by lb. basis. Guarantee 39 ft. approx. or over per roll of ¾ inch. Special widths available upon application. Nothing under ½ inch wide. Not sold by lb. — same footage per roll — 39 ft. Also available in special widths.

Prices upon request.

"SCOTCH" BRAND ELECTRICAL TAPE

"SCOTCH" No. 33 ELECTRICAL TAPE

With Plastic Backing

Listed Under Reexamination Service of Underwriters' Laboratories, Inc.

This tape has a stretchy, rubber-like plastic backing that enables it to do the work of two ordinary tapes. Goes on in one operation, instead of two, and does a better job. Its stretchability and resistance to oil and moisture equip it perfectly for a wide range of uses in electrical construction and repair. Its thinness gives it an important advantage in eliminating "over-stuffed" junction boxes. Has a dielectric strength of 10,000 volts — only .007 of an inch thick.

This revolutionary Electrical Tape is backed with the same synthetic resin that is used on Type T synthetic insulated wire. It provides complete electrical and mechanical protection.

Scotch No. 33 Electrical Tape	Packing — Type of Packing	Carton	Price Per Roll
¾" x 66 ft.	1 Roll per Can	12	**$1.50**
¾" x 20 ft.	12 Rolls per Tube	144	**.55**

"SCOTCH" No. 27 ELECTRICAL TAPE

With Glass Cloth Backing and Thermo Setting Adhesive

The glass cloth backing of No. 27 Electrical Tape is not harmed by high temperatures, resists flame, does not shrink, stretch or rot; has extremely high tensile strength — 150 pounds per inch of width. Curing of the thermosetting adhesive increases dielectric strength about 500 volts and harms none of the other electrical properties.

Packing: 1—½-inch x 66 ft. roll per can, 12 cans per carton.

Price, No. 27 "Scotch" Electrical Tape ..... per roll **$1.75**

"SCOTCH" BRAND ELECTRICAL TAPE

JOB SIZE "SCOTCH" No. 33 ELECTRICAL TAPE

Twelve "Job Size" twenty-foot rolls of "Scotch" No. 33 Electrical Tape in a strong tube with a metal screw cap. Each roll is a convenient one day supply for an electrician with a steady schedule of wiring assignments. Electricians like the twenty-foot roll because it is easy to use and easy to carry. The neat compact tubes take up little storage room and give the tape perfect protection while in stock. Has a dielectric strength of 10,000 volts — only .007 of an inch thick.

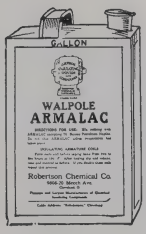
Packing: 12—¾-inch x 20 ft. roll per tube; 144 rolls (12 tubes) per carton.

Price, No. 33 "Scotch" Electrical Tape per Job Size Roll.....**$0.55**

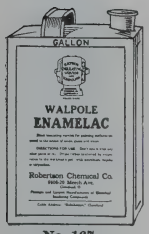
INSULATING LIQUIDS AND COMPOUNDS

ARMALAC COMPOUND

A high-grade, permanently elastic compound; used for the reinforcement of the cotton covering of windings, and for paper, fibre, mica cloth, etc.



Cat. No.	Size	Price Per Gallon
161	Barrel	$3.00
162	1-gal. can	3.70
164	5-gal. can	3.70



No. 167

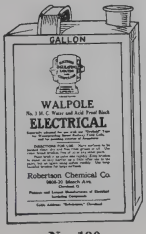
ENAMELAC

A quick-drying, glossy black insulating paint for general work, especially inside work, switchboard, junction boxes, controller cases, and the like.

Cat. No.	Size	Price Per Gallon
166	Barrel	$2.75
167	1-gal. can	3.45
168	5-gal. can	3.45

NO. 3 ELECTRICAL PAINT

A heavy, absolutely water and acid-proof paint, particularly adapted for acid tanks, battery cells, etc., also for the outside of railway field coils and armatures, controller cases, car fenders and similar works.



No. 180

Cat. No.	Size	Price Per Gallon
180	Barrel	$3.60
181	1-gal. can	5.00
183	5-gal. can	5.00

RUBEROID RAPID ASPHALT PAINT

For Insulating and Resisting Moisture, Acids, Corrosion and Deterioration

This full-bodied, smooth black paint is used wherever a hard, tough surface is required for increased protection against wear, weather or chemical attack. Exclusively processed for quick drying, Rapid Asphalt Paint provides a glossy, enamel-like finish that is uniform and attractive. Adheres readily and permanently to almost anything: wood, metal, masonry, coated fabrics, etc.

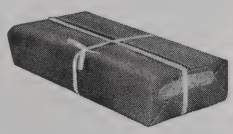
Extensively used for electrical wiring and repair, and installation of electrical equipment. Rapid Asphalt Paint not only has requisite dielectric application, but also effectively resists the action of moisture, acids, alkalies on electrical equipment underground. It is especially adapted for use on high potential and underground electric wiring, marine wiring, submarine cables, battery and switch boxes, electric motor frames, telephone equipment, coils and armatures, etc.

Packaging:

60 gal. Steel Drums — 50 gal. Wood Barrels
5 gal. Cans — 1, ½, and ¼ gal. Cans

McGILL CHATTERTON COMPOUND

Rubber Composition Insulation



Best para rubber compound for insulating, 75% pure rubber. Absolute assurance against danger of open contacts and terminals; can be used for waterproofing. Formed in ¼-lb. sticks, 1 inch in diameter, 8 inches long, 10 sticks to package. Used on all high-grade electrical work.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Per 100	Price Per Lb.
2769	¼ lb. Sticks	10	25	$2.70

O. Z. INSULATING COMPOUND

Approximate shipping weight, 10 lbs. per gallon. Prices on compound in steel drums will be sent on request.

Net Prices Per Container

Container Size	Quantity 1-9	10 or More
1 Quart	$1.75	$1.15
1 Gallon	3.00	2.00
5 Gallon	12.50	8.35

MINERALLAC INSULATING COMPOUNDS

For Use in Cable Joints, Potheads and Terminal Bells

HIGH VOLTAGE COMPOUNDS

No. 1. A compound having the consistency of molasses. Not affected by moisture. Effective in drying out tape, cloth, and between layers of such materials when wound on high-voltage electrical apparatus.

No. 2A. Cable joint or pothead compound. Melting point 82 degrees C. Adheres to metal or porcelain; especially suitable for use in warm climates.

No. 64. For use in mild climates where there is no great variation in temperature. A hard compound, with a melting point of approximately 93 degrees C.

No. 78. Cable joint or pothead compound. Dense and very adhesive. Recommended as an all-purpose insulating material. For voltages 6,000 and up. Melting point 90 degrees C. Dielectric strength 940 volts per mil at 30 degrees C.

No. 80. Pothead compound for use on 6,000 volts and over. Melting point 130 degrees C. Tests 990 volts per mil at 30 degrees C.

No. 104. A semi-solid compound for use in cable joints on high voltage lines over 6,000. Melting point 50 degrees C. Dielectric strength averages 800 volts per mil at 30 degrees C.

No. 104A. Same general characteristics as No. 104, except it has a lower melting point (35 degrees C.).

INSULATING COMPOUNDS

For high and low voltage cable joints, potheads, junction boxes, end bells, etc.

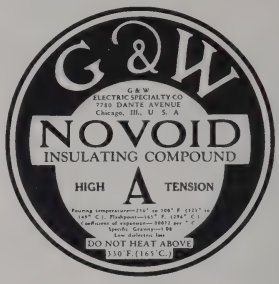
Container Size	Quantity in Gal.	Compound Number 1#	#2-A	#33	#85 #64	#20- #78 #80-#104 #104A
½ Gal	Any	$2.80	$3.30	$3.80	$2.60	$2.50
1 Gal.	1–9	2.30	2.80	3.30	2.10	2.00
	10–49	2.20	2.70	3.20	2.00	1.80
	50–149	2.10	2.60	3.10	1.90	1.60
	Over 150	2.00	2.50	3.00	1.80	1.40
2 Gal.	2–8	2.25	2.75	3.25	2.05	1.70
	10–48	2.15	2.65	3.15	1.95	1.50
	50–148	2.05	2.55	3.05	1.85	1.30
	Over 150	1.95	2.45	2.95	1.75	1.10
5 Gal.	5	2.10	2.60	3.10	1.90	1.55
	10–45	2.00	2.50	3.00	1.80	1.30
	50–145	1.90	2.40	2.90	1.70	1.10
	Over 150	1.80	2.30	2.80	1.60	.90
Steel Drums Approx. 400 Lb.	50 and Over	1.80	2.30	2.80	1.60	.90

For compound in less than ½-gallon container, use the ½-gallon price plus 50 per cent.

Approximate shipping weight, 10 lbs. 1 gallon.

Shipments f.o.b. Chicago, Illinois.

G & W INSULATING COMPOUND



G & W Novoid Insulating Compound is an excellent grade of chemically inert material suitable for use in potheads, underground cable boxes and cable joints. When handled at the proper temperature a homogeneous dielectric filling with no voids will result.

ASPHALTIC BASE —

Novoid "A"—(Medium soft)—for usual installation of sealed potheads (capnut and disconnecting types).

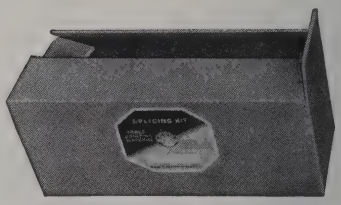
Novoid "C" — (Medium hard) — For straight through type potheads having no definite seal. For hot climates and exposures. For cable boxes and splice boxes.

Ozite "B"—(Medium hard)—For general use, particularly recommended for cable joints because of its low power factor.

OIL INSOLUBLE —

Novoid "X" has all the properties of other Novoid compounds plus the added advantage of insolubility in mineral oils. It is recommended for use in potheads and cable joints when necessary to avoid troubles due to migration. It has a tendency to "stay-put" because it does not mix with cable oil.

G & W CABLE SPLICING KIT



G&W furnishes, usually from stock, unit packages of electric cable splicing material, "Splicing Kits," for all standard and special joints on rubber, varnished cambric and paper insulated (solid type) power and telephone cables.

Each item is supplied in the correct quantity for a properly designed joint.

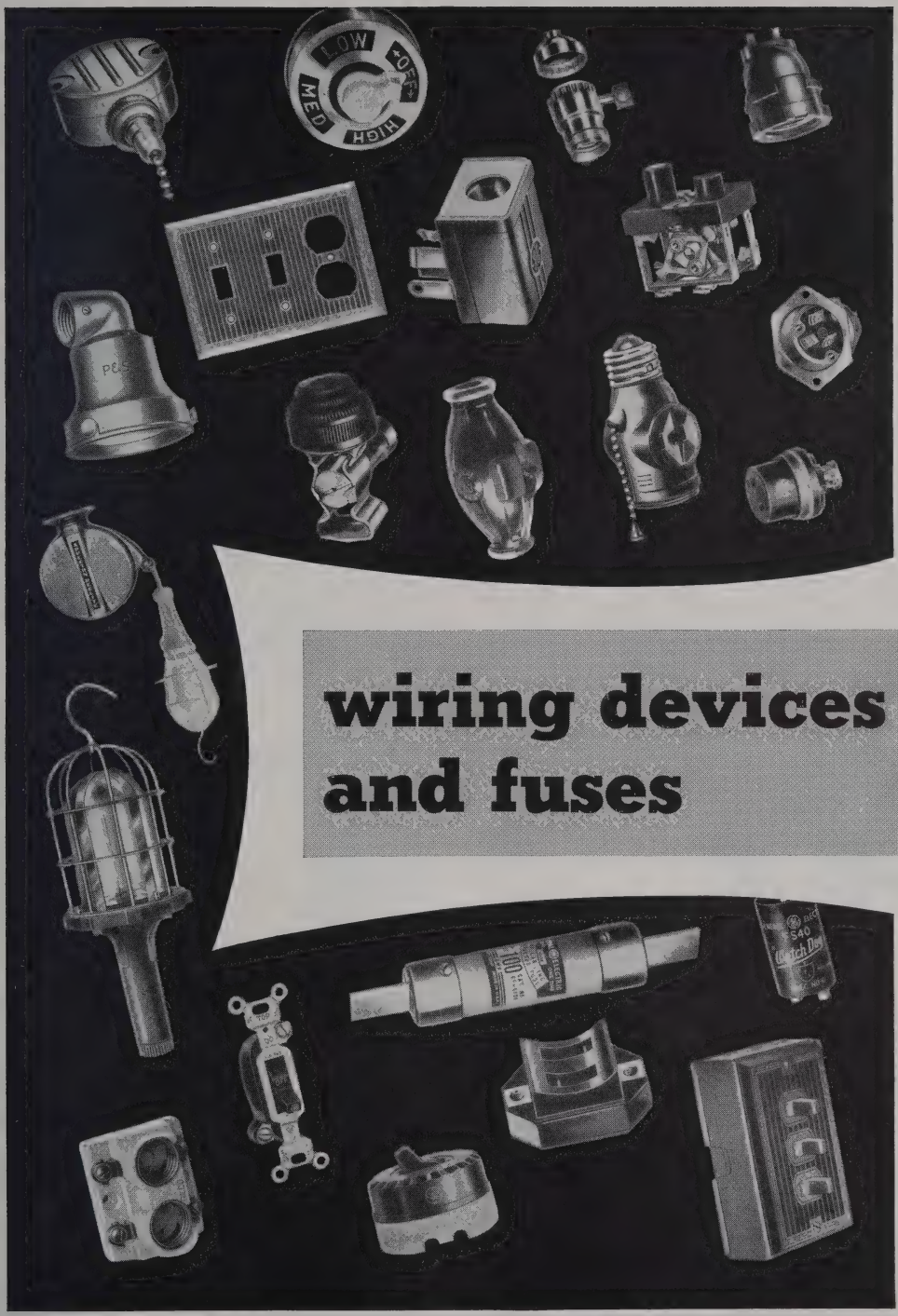
Time and expense of securing various items from different sources is saved.

Accumulation of dead stock is avoided. No waste.

All materials are kept clean and ready for use.

Each Unit Splicing Kit is labeled for easy identification.

Give complete cable data on inquiries and orders.

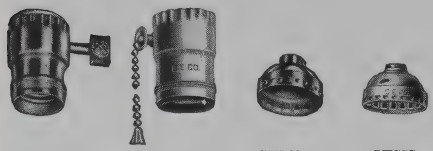

LOW
MED
HIGH
wiring devices
and fuses

G-E LAMPHOLDERS

FLUTED-CATCH LAMPHOLDER BODIES AND CAPS

Brush Brass—Medium Base

Listed by the Underwriters' Laboratories, Inc.



GE769 GE771 GE749 GE757

These brush brass bodies have Textolite interiors and are interchangeable with all standard fluted-catch bodies and caps. All caps are brush brass exteriors except GE793 which is porcelain with a brass interior.

250 Volts

Cat. No.	Description	Watts	Std Pkg	Carton
GE769	Key lampholder body	250	250	25
GE770	Keyless lampholder body	660	250	25
GE771	Pull lampholder body	250	250	25
GE2635	Push lampholder body	660	250	25
GE749	⅛-in. cap		250	25
GE751	⅜-in. cap		100	25
GE757	Pendent cap, compound bushing, .406 (13/32) in. cord hole		250	25
GE793	Porcelain cleat base cap		100	10

THREADED-CATCH LAMPHOLDER BODIES AND CAPS

Brush Brass—Medium Base

Listed by the Underwriters' Laboratories, Inc.

GE1637 GE1639 GE1630 GE1634

Brush brass finish lampholder bodies and caps. Bodies have Textolite interiors except GE1638 which is porcelain. Threaded metal ring holds cap and shell securely together. Will not pull apart or vibrate loose when properly assembled. Caps and bodies interchangeable.

250 Volts

Cat. No.	Description	Watts	Std Pkg	Carton
GE1637	Key lampholder body	250	250	25
GE1638	Keyless lampholder body	660	250	25
GE1639	Pull lampholder body	250	250	25
GE2511	Push lampholder body	660	250	25
GE1630	⅛-in. cap		250	25
GE1632	⅜-in. cap		100	25
GE1634	Pendent cap, compound bushing, .406 (13/32) in. cord hole		250	25

G-E LAMPHOLDERS

THREADED-CATCH TEXTOLITE LAMPHOLDER BODIES AND CAPS

Listed by the Underwriters' Laboratories, Inc.

GE2703 GE2706 GE2708 GE2700 GE2702

These lampholder bodies are made of brown Textolite with Textolite interiors. This construction combines strength at the point of strain with good appearance and excellent insulating qualities. There is no lining to char or deteriorate, and the Textolite shell is not affected by oil, moisture, or corrosive vapors. Caps are made of brown Textolite to match bodies.

250 Volts

Cat. No.	Description	Watts	Std Pkg	Carton
GE2703	Key lampholder body	250	100	10
GE2705	Keyless lampholder body	660	100	10
GE2706	Pull lampholder body	250	100	10
GE2708	Pull lampholder body—insulated link	250	100	10
GE2700	⅛-in. cap		100	10
GE2701	⅜-in. cap		100	10
GE2702	Pendent cap		100	10
GE2784	Pendent cap, clamp grip, .375-.500 (⅜—½) cord hole		100	10

SNAP-CATCH PORCELAIN LAMPHOLDER BODIES AND CAPS

Listed by the Underwriters' Laboratories, Inc.

GE1210 GE1218 GE1224

For installations where heat, excessive moisture, and corrosion are a problem. Standard finish of exposed parts of lampholder bodies is nickel. Caps have nickel nozzles. These devices are interchangeable with all standard snap-catch porcelain bodies and caps.

250 Volts

Cat. No.	Description	Watts	Std Pkg	Carton
GE1210	Key lampholder body	250	100	10
GE1214	Keyless lampholder body	660	100	10
GE1218	Pull lampholder body—insulated link	250	100	10
GE1224	⅛-in. cap		100	10
GE1225	⅜-in. cap		100	10
GE1223	Pendent cap		100	10

G-E LAMPHOLDERS

PLASTIC PULL-CHAIN CEILING RECEPTACLES

With Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.

GE3020

Light weight plastic receptacles with Textolite interiors. Will not chip or break easily. Binding screws accommodate No. 12 wire. Use clamp-type shadeholders. Available in white only.

250 Watts—250 Volts

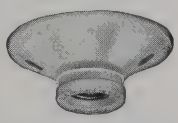
Cat. No.	Description	Std Pkg	Carton
GE3016	For 3¼-in. box. 7-in. chain with insulator link	50	10
GE3019	For 4-in. box. 7-in. chain with insulator link	50	10
GE3020	For 4-in. box. Short chain and cord	50	10

KEYLESS PLASTIC CEILING RECEPTACLES

With Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.

Light in weight, strong, and not easily chipped or broken. Large diameter base conceals broken plaster and provides more wiring space. Four easily removed knockouts in base permit moisture drainage. Use clamp-type shadeholder.



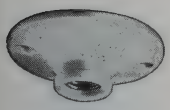
GE155

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
GE155	For 3¼-in. box	660	250	100	5
GE088	For 4-in. box	660	250	50	5

KEYLESS PORCELAIN CEILING RECEPTACLES

With Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.



GE3327

The lampholders are similar to GE088 and GE155 listed above except that they are standard porcelain type. Use clamp-type shadeholders.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
GE3326	For 3¼-in. box	660	250	100	5
GE3327	For 4-in. box	660	250	50	5

G-E LAMPHOLDERS

PORCELAIN LAMPHOLDERS ON BOX COVERS

With Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.

GE2686

GE2688

The porcelain lampholders are mounted on galvanized box covers and are available with either binding screw terminals or 6-inch No. 14 leads.

660 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
GE2686	3¼-in. box cover. Binding screw terminals	100	10
GE2688	3¼-in. box cover. 6-in. No. 14 leads	100	10
GE2687	4-in. box cover. Binding screw terminals	100	5
GE2689	4-in. box cover. 6-in. No. 14 leads	100	5

HEAVY-DUTY WEATHER-RESISTANT LAMPHOLDER

Medium Base—Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.

A heavy-duty weather-resistant lampholder designed to meet a definite need in shipyards, railroad construction, industrial plants, etc. Made of tough, black compound that does not break easily. Weather-resistant wax seal around leads for protection against moisture. 6-inch leads. Black compound.

GE3482

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE3482	660	600	100	10

WEATHER-RESISTANT LAMPHOLDERS

Medium Base—Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.

GE2751

60666

Weather-resistant lampholders with 4½-inch No. 14 Awg stranded wire leads.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
GE2751	Black Textolite, 4½-inch leads	660	600	100	10
60666	High-heat compound, 4½-inch leads	660	600	100	10

G-E LAMPHOLDERS

KEYLESS WEATHER-RESISTANT LAMPHOLDERS

Medium Base—Lamp Grip

Listed by the Underwriters' Laboratories, Inc.

GE2324

A metal-shell weather-resistant lampholder with lamp grip.

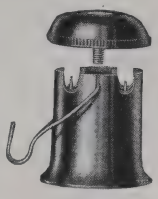
Cat. No.	Rating—Watts	Volts	Std Pkg	Carton
Aluminum Shell—½-in. Cap				
GE2324	660	600	50	10
Copper Shell—½-in. Cap				
GE2492	660	600	50	10

TEXTOLITE PIN-TYPE WEATHER-RESISTANT LAMPHOLDER

Medium Base

Listed by the Underwriters' Laboratories, Inc.

Designed especially to speed up the installation of festoon lighting and other decorative lighting jobs. The pins penetrate the insulation of the conductors when the cap is screwed on the body and provide contact. The grooves are accurately dimensioned to fit No. 14 or No. 12 Awg wire. A removable hook permits support on a guy rope or messenger wire.



GE3319

Cat. No.	Description	Rating—Watts	Volts	Std Pkg	Carton
GE3319	Brown Textolite	660	250	100	10

KEYLESS PORCELAIN LAMPHOLDER

For Fixtures

Medium Base—Shadeholder Grooves

Listed by the Underwriters' Laboratories, Inc.

GE469

A two-piece porcelain lampholder with japanned ½-inch metal cap. Has two-screw fastening and shadeholder grooves.

Cat. No.	Rating—Watts	Volts	Std Pkg	Carton
GE469	660	600	100	10

PULL PORCELAIN LAMPHOLDERS

For Fixtures—Medium Base

Listed by the Underwriters' Laboratories, Inc.

These medium-base lampholders have $\frac{13}{32}$-inch deep skirted ring, 1¼-inch shallow pull body with Textolite interiors. Chain is nickel-plated. Heat-resistant gasket (rubberized gasket without extra charge). A 1½-inch hole in fitters is required for these lampholders.

GE2288

Cat. No.	Description	Rating—Watts	Volts	Std Pkg	Carton
GE2288	4-ft. linen cord, short insulated chain	250	250	100	10
GE2293	7-in. insulated chain	250	250	100	10

G-E LAMPHOLDERS

KEYLESS PORCELAIN LAMPHOLDER FOR SIGNS

Medium Base—Deep Body

Listed by the Underwriters' Laboratories, Inc.

Lampholder has $\frac{15}{32}$-inch shallow ring, 1¼-inch deep keyless body. Heat-resistant gasket (rubberized gasket is available without extra charge). A 1½-inch hole in fitters or sign front is required for this lampholder.

Cat. No.	Description	Rating—Watts	Volts	Std Pkg	Carton
GE001	Binding screw terminals	660	600	100	10

KEYLESS PORCELAIN LAMPHOLDERS

For Signs and Fixtures

Medium Base—Shallow Body

Listed by the Underwriters' Laboratories, Inc.

These lampholders have $\frac{17}{32}$-inch deep ring, $\frac{9}{32}$-inch shallow keyless body. Heat-resistant gasket (rubberized gasket without extra charge). 1½-inch hole in fitters or sign front is required for these lampholders.

GE2294

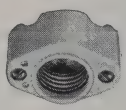
Cat. No.	Description	Rating—Watts	Volts	Std Pkg	Carton
GE2262	Binding screw terminals	660	250	100	10
GE2294	Protected terminals	660	250	100	10

KEYLESS PORCELAIN LAMPHOLDERS

For Signs—Medium Base

Listed by the Underwriters' Laboratories, Inc.

GE170



GE172

Keyless, one-piece porcelain lampholders. A 1⅜-inch hole in sign front is required for these lampholders. GE172 has $1\frac{13}{16}$-inch screw hole spacing. GE170 has $1\frac{23}{32}$-inch screw hole spacing.

Cat. No.	Description	Rating—Watts	Volts	Std Pkg	Carton
GE170	For wooden signs, binding screw terminals	660	250	100	10
GE172	For metal signs, binding screw terminals, heavy supporting lugs	660	250	100	10

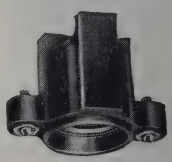
KEYLESS TEXTOLITE LAMPHOLDERS

For Signs—Medium Base

Listed by the Underwriters' Laboratories, Inc.

Keyless one-piece black Textolite lampholder. A 1⅜-inch hole in sign front is required for this lampholder. $1\frac{13}{16}$-inch screw hole spacing.

For metal signs, has binding screw terminals.



Cat. No.	Rating—Watts	Volts	Std Pkg	Carton
GE968	660	600	100	10

G-E MISCELLANEOUS LAMPHOLDERS
DOUBLE-POLE PORCELAIN ROSETTES
Medium Base—Fuseless

Listed by the Underwriters' Laboratories, Inc.

One-piece porcelain for cleat or open work.

Cat. No.	Rating Watts	Rating Volts	Std. Pkg.	Carton
43111	660	250	100	10

KEYLESS PORCELAIN LAMPHOLDERS
For Cleat Work—Medium Base

224160

9171

50715

660 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
224160	Heavy shell—lamp grip and extended support holes	100	10
9171	Heavy shell—center support holes	100	10
50715	Light shell—extended support holes	100	10

PORCELAIN LAMPHOLDER
Admedium Base

Listed by Underwriters' Laboratories, Inc.

GE3280

With ⅛-inch Cap. For use with mercury lamps, black light lamps and sunlamps which have the admedium size base. Glazed porcelain casing. All current carrying parts silver plated.

Cat. No.	Rating Watts	Rating Volts	Std. Pkg.	Carton
GE3280	660	600	100	10

KEYLESS BI-POST LAMPHOLDERS
For Medium Bi-Post Lamp

Approved by Underwriters' Laboratories, Inc. only for use in equipment listed by the Underwriters' Laboratories, Inc.

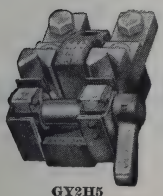
One-piece porcelain body. 78X162 has ⅜-inch yoke. 78X163 body only.

78X162

Cat. No.	Rating Watts	Rating Volts	Std. Pkg.	Carton
78X162	1500	250	50	5
78X163	1500	250	50	5

KEYLESS BI-POST LAMPHOLDERS
For Mogul Bi-Post Base Lamps

Listed by Underwriters' Laboratories, Inc.



GY2H5

Special asbestos base heat-resisting molded compound. For use on airport and projection screen lighting.

GY2H6 same as GY2H5 except with handle in center between clamps.

Cat. No.	Rating Amp.	Rating Volts	Std. Pkg.	Carton
GY2H5	100	250	20	2
GY2H6	100	250	20	2

G-E MISCELLANEOUS LAMPHOLDERS
PORCELAIN LAMPHOLDER
Listed by the Underwriters' Laboratories, Inc.

GE069

Mogul Base

GE069 has ½-inch japanned cast cap.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE069	1500	250	50	5

LAMPHOLDER FOR CLEAT WORK
Listed by the Underwriters' Laboratories, Inc.

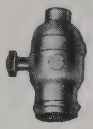
Mogul Base

One-piece body with exposed terminals. White porcelain.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE1194	1500	250	50	5

KEY FLUTED-CATCH LAMPHOLDER
Intermediate Base

Listed by the Underwriters' Laboratories, Inc.



Brush brass lampholders with fluted-catch fastening. Textolite interior. With ⅛-inch cap.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE2609	75	125	100	25

KEYLESS WEATHER-RESISTANT LAMPHOLDER
Intermediate Base

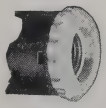
Listed by the Underwriters' Laboratories, Inc.

Keyless green Textolite weather-resistant lampholder with 4½-inch No. 18 Awg leads.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE2597	75	250	100	25

KEYLESS TEXTOLITE LAMPHOLDER
Intermediate Base

Listed by the Underwriters' Laboratories, Inc.



Textolite lampholder with removable porcelain ring. Spring center contact is set deep in Textolite well and screw shell is set high to prevent damage from moisture.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE2877	75	250	250	25

KEYLESS CANDELABRA LAMPHOLDER
Listed by the Underwriters' Laboratories, Inc.

Brush brass lampholder with porcelain interior. Multi-catch fastening. With ⅛-inch cap.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE023	75	125	100	50

KEYLESS CANDELABRA LAMPHOLDER
Listed by the Underwriters' Laboratories, Inc.

Porcelain lampholder designed for cleat work.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE675	75	125	100	25

KEYLESS MINIATURE LAMPHOLDER
Listed by the Underwriters' Laboratories, Inc.

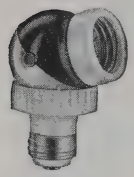
Porcelain lampholder for cleat work.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE676	75	125	100	25

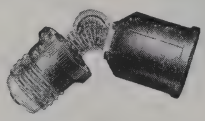
G-E MISCELLANEOUS LAMPHOLDERS

ADJUSTABLE ANGLE ADAPTERS
MEDIUM BASE

Listed by the Underwriters' Laboratories, Inc.



GE3202



GE3286

GE3287

GE3286, GE3287, and GE3288 are designed for use with reflector lamps. Adjustable 180° vertical and 340° horizontal. Textolite shell. Box cover model is recommended for show window lighting. GE3202 is a heavy-duty adapter for reflector and projector lamps. Adjustable 70° vertical and 340° horizontal. Set screw to hold adjustment.

Cat. No.	Description	Rating Watts	Rating Volts	Std. Pkg.	Carton
GE3202	Adjustable angle adapter	660	250	100	10
GE3286	Angle adapter	660	250	100	10
GE3287	Angle adapter on 3¼-in. galv. cover	660	250	100	10
GE3288	Angle adapter on 4-in. galv. cover	660	250	100	10

PORCELAIN LAMPHOLDER ADAPTERS

Listed by the Underwriters' Laboratories, Inc.

GE070 converts a Mogul base to a medium screw base. 35699 converts a medium screw base to a candelabra screw base.

GE070

35699

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
GE070	Mogul to medium screw base	660	250	100	10
35699	Medium to candelabra screw base	75	125	100	25

METAL KEYLESS LAMPHOLDER

For Car Wiring—Medium Base

Listed by the Underwriters' Laboratories, Inc.

Small exposed porcelain base — brush brass shell.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
50717	660	600	100	10

PREFOCUSING LAMPHOLDERS

For Projection Machines—Medium Base

Listed by the Underwriters' Laboratories, Inc.

Accommodate lamps with special bases designed to assure correct focusing in projection machines. No. 296562, gray procelain; No. 292380, black Textolite.

296562

1000 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
296562	For bracket mounting	100	10
292380	For surface mounting	100	10

G-E MISCELLANEOUS LAMPHOLDERS

KEYLESS LAMPHOLDER FOR SWITCHBOARDS

Back-connected Studs—Medium Base

Listed by the Underwriters' Laboratories, Inc.

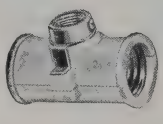
Metal shell, black marine finish.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE550	660	250	100	10

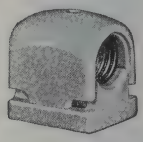
DOUBLE END LAMPHOLDERS

Medium Base

Listed by the Underwriters' Laboratories, Inc.



GE2975



66722

GE2975 is designed for showcase work — has ⅜-inch nozzle. 66722 is for cleat, concealed or molding work.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
GE2975	White Textolite	660	250	100	10
66722	White porcelain	660	250	100	10

CUP-TYPE PORCELAIN LAMPHOLDER

Medium Base

Listed by the Underwriters' Laboratories, Inc.

This device is for flush mounting.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
9514	660	250	100	10

CLAMP-TYPE SHADEHOLDER

Made of brush brass for use with weather-resistant and porcelain lampholders which have shadeholder grooves. With screws.

Cat. No.	Diam. In.	Std Pkg	Carton
49X696	2¼	250	25

LAMPHOLDER KEY

Replacement key for discontinued lampholders GE433, GE774, GE775, GE1164, GE1640, GE1641 and GE1836.

Cat. No.	Description	Std Pkg	Carton
GE434	Key	100	10

PLASTIC LAMPHOLDER INTERIORS

Listed by the Underwriters' Laboratories, Inc.

Cat. No.	Description	Std Pkg	Carton
GE3601	Pull	250	25
GE3602	Key	250	25

GE3601 GE3602

G-E MISCELLANEOUS LAMPHOLDERS

MISCELLANEOUS LAMPHOLDER ACCESSORIES

GE2290

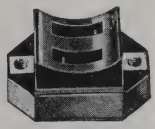
Cat. No.	Description	Std. Pkg.	Carton
GE2290	Detachable insulating link	100	50
6	No. 6 standard beaded pull chain	1000′	200′
10050	No. 1½ black linen cord	1000′	200′
30050	No. 3½ black linen cord	1000′	200′

LUMILINE LAMPHOLDER BASES

Listed by the Underwriters' Laboratories, Inc.

49X616

49X698



49X782

These devices are made of Textolite and are designed for either built-in or built-on illumination. These lampholders provide for installations of single units or for continuous lighting.

660 Watts—250 Volts

Cat. No.	Description	Std. Pkg.	Carton
49X616	Single black Textolite—side connected	200	50
49X657	Single white plastic — side connected	200	50
49X698	Single black Textolite—back connected	200	50
49X845	Single black Textolite—back connected, screw mounting	200	50
49X699	Single white plastic — back connected	200	50
49X846	Single white plastic — back connected, screw mounting	200	50
49X782	Double black Textolite—back connected	200	50
49X777	Double white plastic — back connected	200	50

LUMILINE LAMPHOLDER CAPS

Listed by the Underwriters' Laboratories, Inc.

49X805

78X30

Snap-on designs for easy installation. The shallow cap is recommended where continuous lightline is desired. Deep caps cover entire end of lamp and give a neat appearance to single lamp installation. Deep caps also furnished with integral switch. Standard package 200; carton, 50.

Cat. No.	Description	Rating Watts	Rating Volts
49X622	Black Textolite, shallow cap	660	250
49X658	White plastic, shallow cap	660	250
49X805	Black Textolite, deep cap for singe lamp	660	250
49X806	White plastic, deep cap for single lamp	660	250
78X30	Black Textolite, deep cap and switch	75	125
78X114	White plastic, deep cap and switch	75	125

G-E FLUORESCENT STARTERS

WATCH DOG STARTERS

Glow-switch Type for AC Operation

FS-40

The best G-E starters for general-purpose use. Automatic cut-off of failing lamps eliminates blinking, protects ballasts and fixture wiring. Manual reset button. Watch Dog starters outlast ordinary starters.

Cat. No.	No. Terminals	Lamp Watts	Lamp Length Inches	Bulb	Std Pkg	Carton
FS- 20	2	14,15,20	15,18,24	T-8, T-2	100	10
FS- 30	2	30	36	T-8	100	10
FS- 40	2	40	48	T-12	100	10
FS-850	4	85,100	60	T-17	100	10

STANDARD STARTERS

Glow-switch Type for AC Operation

These G-E all-purpose starters are accurately timed to combine efficient starting with long lamp life. They do not have the "no blink" and manual reset features of the Watch Dog starters. Each has 2 terminals.

FS-6

FS-12

Cat. No.	Lamp Watts	Lamp Length Inches	Bulb	Std Pkg	Carton
FS- 2	14,15,20	15,18,20	T-8,T-12	100	10
FS- 4	13,30,40	21,36,48	T-5,T-8,T-12	100	10
FS- 5	6,8	9,12	T-5	50	10
FS- 6	100	60	T-17	50	10
FS-12	32	12" diam.	Circline	100	10
FS-25	25	33	T-12	100	10

STANDARD STARTER

Glow-switch Type for DC Operation

FS-4DC

Cat. No.	Terminals	Lamp Watts	Lamp Length Inches	Bulb
FS-4DC	2	30,40	36,48	T-8,T-12

Standard package, 100; carton, 10.

THERMAL SWITCH STARTER

Thermal-switch Type for AC or DC Operation

All-purpose starter. For use in conjunction with proper ballasts, inductance units, and series resistance for d-c operation.

Thermal type starters should be used in all sequence starting circuits and in those applications where ambient temperature is below 40° F.

FS-44

Cat. No.	No. Terminals	Lamp Watts	Lamp Length Inches	Bulb	Std Pkg	Carton
FS-44	4	40	48	T-12	50	10
FS-64	4	85, 100	60	T-17	50	10

G-E FLUORESCENT LAMPHOLDERS

MEDIUM BI-PIN LAMPHOLDERS

Standard Type—Rotating Lock

78X354

Designed for either flush or surface mounting. Wire is protected with plastic cover plate. Lampholders are held to reflector or wiring channel with one screw and nut. Binding screws take conductors up to size 14 Awg solid wire. Two of these devices are required for each lamp where a separate starter socket is used.

Conventional mounting requires one 78X354 or 78X491 and one 78X729 or 78X736. One-inch screw and nut furnished with carton pack.

Lamp: Watts—14, 15, 20, 25, 30 or 40. Length—15, 18, 24, 33, 36, 48 inches. Diam.—1, 1½ inches. Bulb—T-8, T-12.

Cat. No.	Description	Rating—Watts	Rating—Volts	Std Pkg	Carton
78X354	Black plastic	660	600	100	10
78X491	White plastic	660	600	100	10

MEDIUM BI-PIN LAMPHOLDERS

Combination Type—Rotating Lock

Same general description as for standard type, listed above. Use one 78X729, 78X736, or 95X291 with one 78X354 or 78X491 for each lamp. 1⅞-inch mounting screw and nut furnished with carton pack. These devices are for FS-2, FS-4, FS-20, FS-25, FS-30, or FS-40 starters.

78X729

95X291

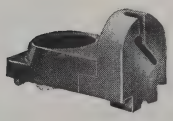
Lamp: Watts—14, 15, 20, 25, 30, or 40. Length—15, 18, 24, 33, 36, or 48 inches. Diam.—1, 1½ inches. Bulb—T-8, or T-12.

660 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
78X729	Black plastic	100	10
78X736	White plastic with black starter socket	100	10
95X291	White plastic lampholder, black reverse starter socket	100	10

MEDIUM BI-PIN LAMPHOLDERS

Ejector Type



78X914

78X915

Designed to be used in pairs for narrow channel wiring work, show-case lighting and side-wall fixtures. Require No. 6-32 screws (not furnished).

Lamp: Watts—15, 30. Length—18, 36 inches. Diameter—1 inch. Bulb—T-8.

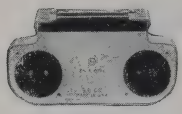
660 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
78X914	Black plastic combination lampholder and starter socket	100	10
78X915	Black plastic—no starter	100	10

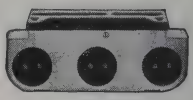
G-E FLUORESCENT LAMPHOLDERS

MEDIUM BI-PIN LAMPHOLDERS

Turret Type



95X953



95X936

Turret lampholders have a sturdy, all-metal construction with built-in starter sockets and holes for guiding the leads to the connection screws. Except for No. 95X953, the holes for the leads are numbered for simplicity of wiring. Turret lampholders offer a wide scope for fluorescent applications in industrial or commercial lighting fixtures. The lampholders are easily mounted on any flat surface with two No. 8 mounting screws. They can be mounted back-to-back for continuous lighting. New lamps can be inserted and old lamps removed by depressing the face of either Turret lampholder with one end of the lamp until the other end clears the opposite face. Lamps are held securely and will withstand all normal jars, shocks, and vibration. Use two each of 95X953 for each twin lamp installation or two each of 95X934. Use one 95X936 and one 95X935 for each triple lamp installation.

Lamp: Watts—14, 15, 20, 25, 30, or 40. Length—15, 18, 24, 33, 36, or 48 inches. Diameter—1, 1½ inches. Bulb—T-8, T-12.

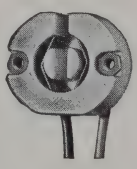
660 Watts—600 Volts

For FS-2, FS-4, FS-20, FS-25, FS-30 or FS-40 starters

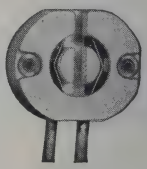
Cat. No.	Description	Std Pkg	Carton
95X953	Twin Turret — 3½-in. center spacing. Keyhole slots in mounting feet. For one starter	50	5
95X934	Twin Turret—5-in. center spacing. For one starter	50	5
95X936	Triple Turret—2½-in. center spacing. For one starter	50	5
95X935	Triple Turret — 2½-in. center spacing. For two starters	50	5

MEDIUM BI-PIN LAMPHOLDERS

Butt-on Type—Rotating Lock



95X168



95X217

For surface mounting, 95X168 has threaded mounting inserts for 4-36 mounting screws. All others have eyelet mounting holes for No. 4 screws. Screws not furnished. All have two 18-inch No. 18 Awg AF fixture wire leads. Stripped ½ inch.

Lamp: Watts—14, 15, 20, 25, 30, 40. Length—15, 18, 24, 33, 36, or 48 inches. Diameter—1, 1½ inches. Bulb—T-8 or T-12.

Cat. No.	Description	Rating—Watts	Rating—Volts	Std Pkg	Carton
95X168	White plastic	660	250	100	10
95X217	White plastic	660	250	100	10
95X312	Black plastic	660	250	100	10

G-E FLUORESCENT LAMPHOLDERS

MEDIUM BI-PIN LAMPHOLDERS

Narrow-channel Type—Rotating Lock

78X464

Designed for flush mounting for narrow channel wiring work, showcase lighting and side-wall fixtures. Wiring is protected by plastic cover plate. One screw mounting requires No. 6-32 screw (not furnished).

Lamp: 15, 30 watts. Length—18 or 36 inches. Diameter—1 inch. Bulb—T-8.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
78X464	Black plastic	660	250	100	10
78X492	White plastic	660	250	100	10

MEDIUM BI-PIN LAMPHOLDER

Weather-resistant Type

For enclosed outdoor lighting equipment. Spring-mounted bracket. Two-hole mounting requires No. 6 screws (not furnished).

Lamp: Watts—14, 15, 20, 25, 30, 40. Length—15, 18, 24, 33, 36, or 48 in. Diameter — 1, 1½ inches. Bulb—T-8, T-12.

95X178

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
95X178	Has 10-in. No. 18/2 ⅜" POSJ cord lead	660	250	100	10

MEDIUM SINGLE-PIN LAMPHOLDERS

Standard Slimline Type

95X671

95X672

95X683

Sturdy, white plastic lampholders for narrow-channel lighting. Single mounting hole for No. 8 screw (not furnished). Binding screws are located under the back cover. One 96X671 lampholder and one 95X672 or 95X683 should be ordered for each lamp. Also order one bracket 95X670 for each lampholder. This bracket meets Underwriters' Laboratories' requirements for mounting lampholder to the reflector.

Lamp: Length — 42 or 64 inches. Diameter — ¾ in. Bulb — T-6.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
95X671	High-voltage end	660	1000	100	10
95X672	Low-voltage end with lamp ejector	660	250	100	10
95X683	Low-voltage end	660	250	100	10

Bracket For Each

One required for each lampholder.

Cat. No.	Description	Std Pkg	Carton
95X670	Bracket only	100	10

G-E FLUORESCENT LAMPS

MEDIUM SINGLE-PIN LAMPHOLDERS

Standard Slimline Type

95X975

95X976

Sturdy construction utilizing high dielectric porcelain base, has metal cover to withstand rough service. Finish is white enamel. Free acting insulating disk on high voltage end.

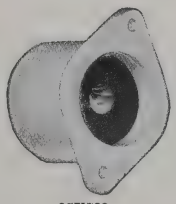
Two screw mounting to flat surface. Clearance holes for No. 8 screws. Distance from lamp center to mounting surface of 1$\frac{13}{64}$ inches. Interchangeable in mounting with old design 95X637, 95X638.

Lamp: Length—42, 64, 72, 96 inches. Diameter ¾, 1 inch. Bulb—T-6, T-8. Slimline 72T8, 96T8, 64T6, and 42T6.

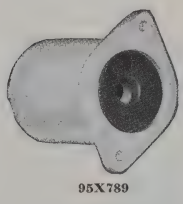
Cat. No.	Description	Rating Watts	Rating Volts	Std. Pkg.	Carton
95X975	Low-voltage end shunting	660	250	100	10
95X976	Low-voltage end	660	1000	100	10

MEDIUM SINGLE-PIN LAMPHOLDERS

Butt-on Slimline Type



95X787



95X789

White plastic lampholders for multiple lamp installations, showcase lighting and shallow cross-section fixtures. Binding screws in back of lampholder protected by back cover plate. Two clearance holes for mounting take No. 6 screws (not furnished).

Lamp: Length—42, 64, 72, 96 inches. Diameter ¾, 1 inch. Bulb—T-6 or T-8.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
95X787	Low-voltage end	660	250	100	10
95X789	High-voltage end	660	1000	100	10

G-E FLUORESCENT LAMPHOLDERS

LARGE SINGLE-PIN LAMPHOLDERS

Standard Slimline Type

95X973

95X974

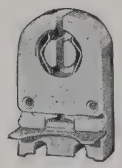
Sturdy construction utilizing narrow, beveled, high dielectric porcelain base, has metal cover to withstand rough service. Finish is white enamel. Free acting insulating disk on high voltage end. Two screw mounting to flat surface. Clearance holes for No. 8 screws. Distance from lamp center to mounting surface is 1$\frac{13}{16}$ inches, same as standard medium bi-pin lampholders 78X354 and 78X491. Accommodates 75 watt, 96T12, also T-8 and T-6 Slimline lamps.

Lamp: Length—42, 48, 64, 72, 96. Diameter—¾, 1, 1½ inches. Bulb—T-6, T-8, T-12.

Cat. No.	Description	Rating—Watts	Rating—Volts	Std. Pkg.	Carton
95X973	Low-voltage end shunting	660	250	100	10
95X974	High-voltage end	660	1000	100	10

LARGE BI-PIN LAMPHOLDER

Standard Type—Rotating Lock



95X102

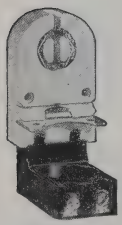
For either flush or surface mounting. Flush mounting requires No. 6-32 screws; surface mounting requires No. 6 screws (not furnished). Wiring is protected by plastic cover plate. Binding screws take conductors up to No. 14 Awg solid. Has bracket with two tapped holes for holding mounting bracket to channel or reflector. Where a separate starter socket is used, two of these devices must be used for each lamp. Otherwise, use one standard and one combination-type lampholder.

Lamp: Watts—85, 100. Length—60 inches. Diameter—2⅛ inches. Bulb—T-17.

Cat. No.	Description	Rating—Watts	Rating—Volts	Std Pkg	Carton
95X102	White plastic	660	250	50	10

LARGE BI-PIN LAMPHOLDERS

Combination Type—Rotating Type



95X123

These combination lampholders have a 4-contact starter socket that will accommodate both the 2-contact and 4-contact starters. Designed for either flush or surface mounting. Flush mounting requires No. 6-32 screws; surface mounting requires No. 6 screws (not furnished). Wiring is protected by plastic cover plate. Binding screws take conductors up to No. 14 solid. Has bracket with two tapped holes for holding mounting bracket to channel or reflector.

Use one of these devices with one standard large bi-pin lampholder for each lamp. These lampholders are for FS-6 or FS-850 starters.

Lamp: Watts—85, 100. Length—60 inches. Diameter—2⅛ inches. Bulb—T-17.

660 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
95X123	White plastic lampholder, black plastic starter socket	50	10
95X186	White plastic lampholder, black plastic inverted starter socket	50	10

G-E FLUORESCENT LAMPHOLDERS

LARGE SINGLE-PIN LAMPHOLDERS

Turret Type—Slimline

502X7

502X6

Sturdy all-metal construction with white enamel finish. New lamps can be inserted and old lamps removed by depressing movable molded parts in face of high-voltage Turret with lamp ends. Opposite end of lamp is then easily swung into position and held securely in place. This new lampholder simplifies and speeds relamping. It eliminates the hazard of falling lamps; simplifies fixture design, provides 5-inch center spacing between lamps, and is built to withstand hard usage.

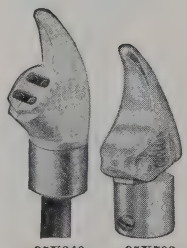
Keyhole slots in mounting bracket provide easy mounting on any flat surface. Distance between centers of keyhole slots 4¾ inches.

Elongated wire holes guide leads to identified binding screws.

Lamp: Length—42, 48, 64, 72, 96 inches. Diameter—¾, 1, 1½ inches. Bulb—T-6, T-8, T-12.

Cat. No.	Description	Rating—Watts	Rating—Volts	Std. Pkg.	Carton
502X7	Twin turret	660	600	50	5
502X6	Twin turret	600	1000	50	5

CIRCLINE LAMPHOLDERS AND TENSION SUPPORTS



95X840
95X909

95X703

All lampholders are made of white urea plastic. Tension supports are made of clear thermoplastic and have die cast hubs with ⅛-inch pipe threads. Lampholders have four leads of No. 18 FF-64 neoprene-insulated, rayon braid wires which are color-coded for easy identification. Leads are available in two lengths—12 inches and 30 inches. Ends are stripped bare ½-inch.

Tension support has strong steel spring construction that provides correct amount of tension and support for proper lamp contact.

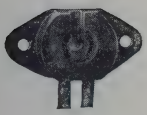
Designed to fit either 22-watt, 8¼-inch or 32-watt, 12-inch circline lamps.

Cat. No.	Description	Rating—Watts	Rating—Volts	Std. Pkg.	Carton
95X703	Tension support	------	------	100	25
95X840	Lampholder with 30-in. leads	660	600	100	25
95X909	Lampholder with 12-in. leads	660	600	100	25

G-E FLUORESCENT LAMPHOLDERS

MINIATURE BI-PIN LAMPHOLDER

Butt-on Type



Designed for surface mounting. Clearance holes take two No. 4 mounting screws (not furnished). This device has two No. 18 Awg stranded TFF fixture wire leads, 6 inches long, both black.

Lamp: Watts—4, 6, 8, 13. Length—6, 9, 12, 21 inches. Diameter—⅝ inches. Bulb—T-5.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
95X276	Black plastic	75	250	100	10

MINIATURE BI-PIN LAMPHOLDERS

Standard Type

78X715

95X432

For flush mounting. One each of 78X715 and 78X723 is required for each lamp. Use two 95X432 for each lamp. One hole mounting requires No. 6-32 screws (not furnished).

95X432 has two 6-in. No. 18 TFF fixture wire leads.

Lamp: Watts—4, 6, 8, 13. Length—6, 9, 12, 21 inches. Diameter—⅝ inches. Bulb—T-5.

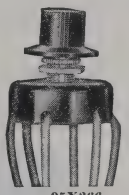
75 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
78X715	Black plastic	50	10
78X723	Black plastic, mounting bracket the reverse of 78X715	50	10
95X432	Black plastic with TFF fixture wire leads	50	10

MANUAL STARTER SWITCHES

Black plastic base, white plastic knob, nozzle mounted — $\frac{13}{32}$-in. diameter.

Lamp: Watts—4, 6, 8, 13, 14, 15, 20, 30, 40. Length—6, 9, 12, 15, 18, 21, 24, 36, 48 inches. Diameter—⅞, 1, 1½ inches. Bulb—T-5, T-8, or T-12.



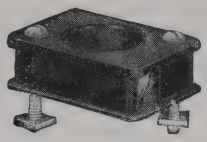
95X266

Cat. No.	Description	Std Pkg	Carton
95X266	For two lamps. Six 6-in. No. 18 Awg AF fixture wire leads, stripped ½ in. (2 red, 2 black, 2 blue)	100	10
95X292	For one lamp. Four 6-in. No. 18 Awg AF fixture wire leads, stripped ½ in. (2 black, 2 blue)	100	10

G-E FLUORESCENT LAMPHOLDERS

SEPARATE STARTER SOCKETS

Medium Type



78X769

95X299

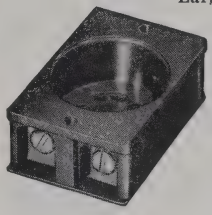
For use where starter is located at a distance from lampholder. Height of starter socket can be varied by using spacer 78X770. 95X299 is a combination device to "butt-on" type lampholders. 78X769 furnished with 1-inch mounting screws. 95X299 requires two No. 4 screws (not furnished).

660 Watts—250 Volts

Cat. No.	Description	Std Pkg	Carton
78X769	Black plastic for 2-contact starters FS-2, FS-4, FS-5, FS-12, FS-20, FS-25, FS-30, FS-40	100	10
95X299	Black plastic, butt-on type. Two 6-in. No. 18 Awg stranded Type AF fixture wire leads, stripped ¾-in. for 2-contact starters FS-4, FS-5, FS-12, FS-20, FS-25, FS-30, FS-40	50	10
78X770	Starter socket spacer	1000	100

SEPARATE STARTER SOCKET

Large Type



Designed for use where starter is located at a distance from lampholder. Two No. 6-32 mounting screws $1\frac{3}{16}$-inches long, furnished with each device.

Black plastic for 4-contact starters FS-44 and FS-64, 2-contact starters FS-6 and FS-850.

Cat. No.	Description	Rating Watts	Rating Volts	Std Pkg	Carton
95X180	As above	660	250	50	10

G-E SWITCHES FOR SPECIAL APPLICATIONS

SINGLE-POLE PENDENT PUSH SWITCH

Listed by Underwriters' Laboratories, Inc.

This switch has brush brass body and cap with Textolite interior. Meets Federal specifications.

Cat. No.	Description	Amperes 250V	Amperes 125V	Std Pkg	Carton
GE558	Brush brass	3	6	100	10

SURFACE ROTARY SWITCH

For Streetcars

Listed by Underwriters' Laboratories, Inc.

GE628

Surface rotary switch for streetcars is made of black compound with slotted base. With cutouts — single-pole. Fuses not included.

10 Amp.—600 Volts

Cat. No.	Description	Std Pkg	Carton
GE628	Single-pole surface rotary switch	25	1

G-E SURFACE TUMBLER SWITCHES

STANDARD GRADE SWITCHES

Listed by the Underwriters' Laboratories, Inc.

Slotted porcelain base with brown plastic cover and handle. GE987 has ½ hp rating at 110 volts. GE1687 has 1 hp rating at 220 volts.

GE989

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE985	Single pole	10	5	100	10
GE987	Double pole	....	10	100	10
GE1687	Double pole	....	20	30	1
GE989	3-way	10	5	50	10
GE2608	4-way	5	2	30	10

PONY-TYPE SWITCHES

Listed by the Underwriters' Laboratories, Inc.

These switches have brown plastic covers and handles and have ⅛ hp rating at 125 volts. Base is slotted.

GE3320

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3320	Single pole	5	3	100	10
GE3321	3-way	5	3	100	10

DUST-RESISTANT PONY-TYPE SWITCHES

Listed by the Underwriters' Laboratories, Inc.

GE3056

These switches are equipped with dust-resistant brush brass covers and handle. Closed base.

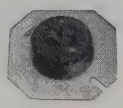
5 Amp., 125 V.—3 Amp., 250 V.

Cat. No.	Description	Std Pkg	Carton
GE3056	Single pole	100	10
GE3057	3-way	100	10

PONY-TYPE SWITCH AND COVER COMBINATIONS

Listed by the Underwriters' Laboratories, Inc.

Brown plastic cover and handle with galvanized box cover. These switches have ⅛ hp rating at 125 volts.



GE3322

3¼-inch Covers

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3322	Single pole	5	3	50	5
GE3323	3-way	5	3	50	5
	4-inch Covers				
GE3324	Single pole	5	3	50	5
GE3325	3-way	5	3	50	5

THRU-CORD SWITCHES

Listed by the Underwriters' Laboratories, Inc.

GE1301

This switch is made of black Textolite and is single pole. Has .4062-inch cord hole.

Cat. No.	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE1301	10	5	50	10

SINGLE-POLE CANOPY SWITCHES

Listed by the Underwriters' Laboratories, Inc.

Nickel finish tumbler switch with 6-inch wire leads. Single pole.

Cat. No.	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2381	3	1	100	10

GE2381

G-E SWITCHES FOR SPECIAL APPLICATIONS

INDICATING HEATER SWITCHES

Listed by the Underwriters' Laboratories, Inc.

296565

296569

These switches have nickel-plated covers with white porcelain handles.

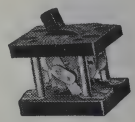
Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
	Single Pole—2¼-inch Base				
278608	Three heat	15	7½	10	1
	Double Pole—2-13/16-inch Base				
296565	Single heat	30	10	10	1
296569	Three heat	30	10	10	1
278920	Three heat—bosses	30	10	10	1
	Double Pole—3¾-inch Base				
293694	Single heat	....	50	10	1
278610	Three heat	50	30	10	1

HEAVY-DUTY SURFACE TUMBLER SWITCHES

Listed by the Underwriters' Laboratories, Inc.

218910

223774



258207

These switches are mounted on bases and are furnished without covers.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
218910	Double pole—busbar terminals 2 hp, 230 volts a-c 1 hp, 575 volts a-c	60	30	20	1
219528	Double pole—busbar terminals	60	30	20	1
219529	Triple pole—busbar terminals 2 hp, 230 volts a-c	60	30	20	1
223774	Single pole—double throw, 2 circuits	30	15	20	1
258207	Double pole for box mounting	....	20	20	1

PANEL SWITCHES

Listed by the Underwriters' Laboratories, Inc.

235685

223735

These switches have busbar terminals.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
269943	Single pole—tumbler	30	....	50	10
235685	Double pole—tumbler	30	20	50	10
223735	Double pole—push	....	20	50	10

G-E FLUSH TUMBLER SWITCHES

MERCURY SWITCHES—T-RATED

Listed by the Underwriters' Laboratories, Inc.

These T-rated G-E mercury switches are designed for a wide variety of applications. They are silent and durable. Make and break is actuated by a hermetically sealed mercury button for long life and quiet operation. Conventional blades and springs are not necessary. These switches have narrow bodies which allow easy access to wiring terminals.

GE3008

10 Amp., 125V.—5 Amp., 250V.
5 Amp., 125 V. T-Rated
Brown Textolite Handles

Cat. No.	Description	Std Pkg	Carton
GE3008	Single pole	100	10
GE3009	Double pole	50	10
GE3010	3-way	50	10
GE3011	4-way	10	2

Ivory Plastic Handles

GE3088	Single pole	50	10
GE3089	Double pole	30	10
GE3090	3-way	30	10
GE3091	4-way	10	2

SPECIFICATION GRADE SWITCHES

T-rated

Listed by the Underwriters' Laboratories, Inc.

These switches have a totally enclosed Textolite box and modern, washer-type plaster ears. Especially suitable for high-grade specification work. Meet REA and Federal Specifications.

Brown Textolite Handles

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2842	S. pole	10-T	5	50	10
GE2844	S. pole*	20-T	20	20	10
GE2846	D. pole	20-T	10	10	2
GE2847	D. pole	20-T	20	20	1
GE2593	3-way	10-T	5	20	10
GE2596	4-way	5-T	2	10	2

Ivory Plastic Handles

GE3302	S. pole	10-T	5	30	10
GE3303	3-way	10-T	5	10	2
GE3304	4-way	5-T	2	10	2

*Quadruple break.

GE2842

STANDARD GRADE SWITCHES

T-rated

Listed by the Underwriters' Laboratories, Inc.

G-E standard switches have shallow 1-inch Textolite box, completely plastic-insulated throughout. Washer-type plaster ears. Recommended for standard high-grade installations.

GE2841

Brown Plastic Handles

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2841	S. pole	10-T	5	100	10
GE2843*	S. pole	20-T	10	50	10
GE2516	D. pole	10-T	10	50	10
GE2845	D. pole	20-T	10	50	2
GE2514	3-way	10-T	5	50	10
GE2515	4-way	5-T	2	10	2

Ivory Plastic Handles

GE3027	S. pole	10-T	5	50	10
GE3256	D. pole	10-T	10	10	2
GE3028	3-way	10-T	5	25	10
GE3029	4-way	5-T	2	10	2

*Quadruple break.

G-E FLUSH TUMBLER SWITCHES

INTERMEDIATE GRADE SWITCHES

T-rated

Listed by the Underwriters' Laboratories, Inc.

These T-rated intermediate grade switches meet both REA and Federal Specifications. They are made of durable Textolite, reinforced with a sturdy steel support, side-wired, and have modern washer-type plaster ears.

GE3498

Brown Textolite Handles

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3498	S. pole	10-T	5	100	10
GE3499	3-way	10-T	5	50	10

Ivory Plastic Handles

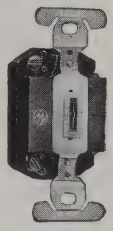
GE3500	S. Pole	10-T	5	100	10
GE3501	3-way	10-T	5	50	10

SPECIFICATION GRADE LOCKING SWITCHES

T-rated

Listed by the Underwriters' Laboratories, Inc.

Similar to regular specification grade except locking type. Key furnished with each switch. Meet REA and Federal Specifications.


GE2670

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2670	S. pole	10-T	5	50	10
GE2976*	S. pole	20-T	20	20	10
GE2671	D. pole	10-T	10	10	2
GE2941	D. pole	20-T	20	10	2
GE2672	3-way	10-T	5	20	10
GE2673	4-way	5-T	2	10	2

*Quadruple break.

KEY FOR SPECIFICATION GRADE LOCKING SWITCHES

This key is included with all locking switches. Order only as replacement.

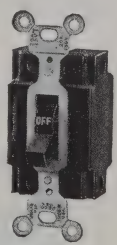
Cat. No.	Std Pkg	Carton
GE2308	100	10

HEAVY-DUTY FLUSH TUMBLER SWITCHES

T-Rated

Listed by Underwriters' Laboratories, Inc.

These heavy-duty switches have shallow, totally enclosed plastic body, and washer-type plastic ears. Pressure terminals, back wiring.



GE3473

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3473	S.Pole	20-T	20	30	10
GE3475	D.Pole	20-T	20	10	2
GE3474	3-Way	20-T	20	10	2
GE3476	S.Pole*	20-T	20	10	2
GE3477	S.Pole	30-T	30	30	10
GE3479	D.Pole	30-T	30	10	2
GE3478	3-Way	30-T	30	10	2
GE3480	S.Pole*	30-T	30	10	2

*Quadruple break.

WEATHER-RESISTANT SWITCHES

T-rated

Listed by the Underwriters' Laboratories, Inc.

GE3024

These weather-resistant switches are furnished with cadmium finish plate and rubber mat. Suited for outdoor use or in damp places where other switches would not be satisfactory.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3024	Single pole	10-T	5	10	2
GE3039	3-way	10-T	5	10	2

G-E STANDARD OUTLETS
DELUXE TWIN OUTLETS
Back- or Side-wired

Listed by the Underwriters' Laboratories, Inc.

GE3483

A deluxe twin outlet with totally enclosed, two-piece Textolite construction that is dust-resistant. Can be back- or side-wired and will easily accommodate No. 12 Awg wire. Meets REA specifications.

15 Amp 125 Volts—10 Amp 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE3483	Brown Textolite	100	10
GE3493	Ivory plastic	100	10

STANDARD GRADE TWIN OUTLETS
Side-wired

Listed by the Underwriters' Laboratories, Inc.

GE2679

These devices have four binding screws, T-slots, and plaster ears. GE2901, GE2902, GE3069, and GE3078 can be wired so that one outlet is switch-controlled and the other outlet is permanently alive. Meets REA specifications. Available in brown Textolite or ivory-colored plastic.

15 Amp 125 Volts—10 Amp 250 Volts

Brown Textolite

Cat. No.	Description	Std Pkg	Carton
GE2679	Common feed and ground	100	10
GE2901	Separate feed, common ground	100	10
GE2902	Separate feed and ground	100	10

Ivory Plastic

GE3030	Common feed and ground	50	10
GE3069	Separate feed, common ground	100	10
GE3078	Separate feed and ground	100	10

INTERMEDIATE GRADE TWIN OUTLETS
Side-wired

Listed by the Underwriters' Laboratories, Inc.

GE3497

A neat, molded plastic twin outlet with steel support in back. This outlet is designed for side wiring, and has parallel slots and modern, washer-type plaster ears. Its "double-wipe" contacts meet both REA and Federal specifications. Available in brown or ivory color.

15 Amp 125 V—10 Amp 250V

Cat. No.	Description	Std Pkg	Carton
GE3497	Brown Textolite	100	10
GE3514	Ivory plastic	100	10

G-E STANDARD OUTLETS
COMPETITIVE GRADE TWIN OUTLETS
Side-wired—Plaster Ears

Listed by the Underwriters' Laboratories, Inc.

GE3524

These devices are made of plastic, and are easy to wire. Equipped with wide mounting plaster ears for correct alignment with the mounting surface. Brown or ivory color.

15 Amp 125 V—10 Amp 250V

Cat. No.	Description	Std Pkg	Carton
GE3524	Brown plastic	100	10
GE3527	Ivory plastic	100	10

NEMA STANDARD TWIN GROUNDING OUTLETS AND CAPS
Back- or Side-wired

Listed by the Underwriters' Laboratories, Inc.

GE3588

GE3611

NEMA standard grounding outlets to be used when NEC or other applicable codes require grounding of 125-volt a-c single phase, or 115-volt d-c powered portable electrical equipment. Can be back or side wired. Has two grounding terminals for easy carry through of ground wire. Openings accept rounding plugs, GE3611 and GE3612, 2-prong polarized plugs and standard 2-prong parallel plugs.

15 Amp.—125 Volts

Cat. No.	Description	Std. Pkg.	Carton
GE3588	Brown Textolite	30	10
GE3589	Ivory plastic	30	10
GE3611	Brown Textolite cord hole .437 ($\frac{7}{16}$) inches	50	10
GE3612	Ivory plastic cord hole .437 ($\frac{7}{16}$) inches	50	10

GE2988

3-POLE TWIN OUTLETS
For 2-Wire Circuits

These outlets are designed for 2-wire circuits only for use in locations where appliances must be grounded with a separate wire. A 3-pole cap must be used with these outlets where a third wire ground is desired.

15 Amp 125 Volts—10 Amp 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE2988	Brown Textolite, separate 3rd wire ground	30	10
GE2989	Brown Textolite, permanent 3rd wire ground	30	10
GE3565	Ivory plastic, permanent 3rd wire ground	30	10

STANDARD GRADE SINGLE OUTLETS
Side-wired

Listed by the Underwriters' Laboratories, Inc.

These plastic outlets have T-slots and plaster ears.

GE2740

15 Amp 125V—10 Amp 250V

Cat. No.	Description	Std Pkg	Carton
GE2740	Brown Textolite	100	10
GE3200	Ivory plastic	50	10

G-E STANDARD OUTLETS

STANDARD GRADE TWIN OUTLETS

With Textolite Covers

Listed by the Underwriters' Laboratories, Inc.

GE3381

Standard quality Textolite twin outlets with T-slots are mounted on brown Textolite box covers. Designed particularly for surface wiring where insulated covers are required.

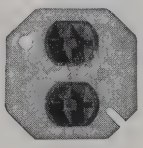
Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3381	3¾-in. Textolite cover	15	10	50	10
GE3382	4-in. Textolite cover	15	10	50	10

STANDARD GRADE TWIN OUTLETS

With Galvanized Covers

Listed by the Underwriters' Laboratories, Inc.

These twin outlets are available in brown Textolite only. Recommended for surface box installation, industrial, home and farm use. Outlets have T-slots and four binding screws, and are mounted on 3¼-inch and 4-inch galvanized covers. Meets REA specifications.

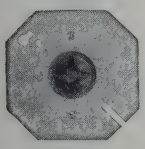


GE2732

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2732	3¼-in. galv. cover	15	10	50	10
GE2685	4-in. galv. cover	15	10	50	5

SINGLE OUTLETS—GALVANIZED COVERS

Listed by the Underwriters' Laboratories, Inc.



GE2684

These outlets are similar to GE2740 except that they are mounted on 3¼- or 4-inch galvanized covers. Outlets are brown Textolite and have T-slots.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2683	Brown Textolite—on 3¼-in. cover	15	10	100	10
GE2684	Brown Textolite—on 4-in. cover	15	10	50	5

G-E STANDARD CAPS AND BODIES

STANDARD CAP

Listed by the Underwriters' Laboratories, Inc.

Textolite construction with properly spaced and tight blades. REA approved. Cord hole, .406 ($\frac{13}{32}$)-inch.

Cat. No.	Color	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2622	Brown	15	10	250	25

G-E STANDARD CAPS AND BODIES

LARGE CAPS

Listed by the Underwriters' Laboratories, Inc.

Designed for use with large-sized connector bodies. Prongs are standard. .406 ($\frac{13}{32}$) inch cord hole.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2718	Brown Textolite	15	10	50	10
GE2721	Brown Textolite, cord grip	15	10	50	10

MINIATURE CAP

Listed by the Underwriters' Laboratories, Inc.

Designed for use with G-E miniature connector bodies. Textolite construction. .281 ($\frac{9}{32}$)-inch cord hole.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2717	Brown Textolite	15	10	50	10

STANDARD PLUG BODY

Listed by the Underwriters' Laboratories, Inc.

This device is made of brown Textolite and has parallel slots. One wide slot provides for polarity when used with polarity cap.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE2621	660	250	250	25

LARGE CONNECTOR BODIES

Listed by the Underwriters' Laboratories, Inc.

GE1351

GE2720

These brown Textolite devices have parallel slots. One wide slot provides polarity when used with polarity cap. GE2720 has metal cord grip. .406 ($\frac{13}{32}$) inch cord hole.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE1351	Brown Textolite	15	10	50	10
GE2720	Brown Textolite with cord grip	15	10	50	10

G-E POLARITY OUTLETS

3-WIRE TWIN POLARITY OUTLETS

Listed by the Underwriters' Laboratories, Inc.

GE2990

Side-wired, brown Textolite twin outlets for flush mounting. GE3195 has neutral contacts permanently connected to support, thus providing ground connection through box to conduit or cable armor. GE2240, GE2723, or GE3080 caps may be used with this outlet.

Cat. No.	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2990	15	10	30	10
GE3195*	15	10	30	10

*Neutral contact grounded.

3-WIRE SINGLE POLARITY OUTLET

Listed by the Underwriters' Laboratories, Inc.

Outlets are of black compound, top-wired. Designed for flush mounting. Use GE2240, GE2723, or GE3080 caps with this device.

Cat. No.	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE1805	15	10	50	10

3-WIRE POLARITY CAPS

Listed by the Underwriters' Laboratories, Inc.

GE2240

GE3080

Black Textolite caps with round cord holes. GE2240 and GE2723, .406 ($\frac{13}{32}$)-inch cord hole; GE3080, .455 ($\frac{29}{64}$)-inch cord hole. GE2723 and GE3080 have metal cord grips.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2240	Black Textolite	15	10	50	10
GE2723	Black Textolite—cord grip ($\frac{13}{32}$)	15	10	50	10
GE3080	Black Textolite—cord grip ($\frac{29}{64}$)	15	10	50	10

3-WIRE POLARITY CONNECTOR BODIES

Listed by the Underwriters' Laboratories, Inc.

GE2481

GE3094

3X983

Connector bodies have round cord holes. GE-2724 and GE3094 have metal cord grips. 3X983 motor base designed for use with these connector bodies, made of black Textolite with nickel-plated casing.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2481	Black Textolite	15	10	50	10
GE2724	Black Textolite cord grip ($\frac{13}{32}$)	15	10	50	10
GE3094	Black Textolite cord grip ($\frac{29}{64}$)	15	10	50	10
3X983	Motor base	15	10	50	10

G-E POLARITY OUTLETS

DOUBLE-POLE SINGLE POLARITY OUTLETS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

GE1367

GE996

Single flush outlets of black compound. These devices are top-wired. Gang installations require blank unit between each two outlets because of large diameter of cap. Use GE997 single convenience outlet plates with GE996.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE1367	Black compound—plaster ears	20	250	30	10
GE996	Black compound—porcelain base	30	250	30	10

BRASS PLATES FOR GE996 OUTLETS

The large diameter of GE996 double-pole outlet necessitates this plate. Can also be used with GE-3148 and GE3149.

Cat. No.	Description	Std Pkg	Carton
GE997	.040-in. brass plate	30	10

DOUBLE-POLE POLARITY CAPS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

GE1370

49X649

GE3076

GE1370 and 49X649 caps are for 20-amp outlets. GE3076 is for 30-amp outlets. Cord holes: GE1370, .562 ($\frac{9}{16}$) in.; No. 49X649, .406-.625 in.; GE3076, .656 ($\frac{21}{32}$) in.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE1370	Black compound	20	250	30	10
49X649	Metal-clad black compound—cord grip	20	250	30	10
GE3076	Black compound—metal cord grip	30	250	30	5

DOUBLE-POLE POLARITY CONNECTOR BODY

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

A heavy-duty connector body with cord grip. Cord hole, .406-.625 inches. Upper half of body is metal-covered.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
49X650	Black composition—cord grip	20	250	30	10

G-E POLARITY OUTLETS

TRIPLE-POLE POLARITY OUTLET

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

One-piece plastic flush outlet. Gang installations require blank unit between each two outlets because of large diameter caps. Brown.

Cat. No.	Rating Amp	Rating Volts	Std Pkg	Carton
GE2762	20	250	30	10

TRIPLE-POLE POLARITY CAPS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

Black compound cap with cord grip, designed for use with 20-amp. triple-pole outlets and connectors. Cord hole—.438-.625 ($\frac{7}{16}$-$\frac{5}{8}$) inch.

Cat. No.	Rating Amp	Rating Volts	Std Pkg	Carton
GE2759	20	250	30	10

TRIPLE-POLE POLARITY CONNECTOR BODIES

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

Black compound body with metal cord grip designed for use with triple-pole polarity caps. Cord hole — .438-.625 ($\frac{7}{16}$-$\frac{5}{8}$) inch.

Cat. No.	Description	Ratings Amp	Ratings Volts	Std Pkg	Carton
GE2760	Black compound —cord grip	20	250	30	10

FOUR-POLE SINGLE POLARITY OUTLETS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

One-piece black compound single flush outlet. Gang installations need blank unit between each of the outlets because of the large diameter of cap. Use standard single outlet plates with this device.

Cat. No.	Rating Amp	Rating Volts	Std Pkg	Carton
GE2777	20	250	20	10

FOUR-POLE POLARITY CAPS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

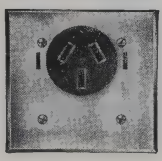
Metal-covered cap equipped with cord grip. Designed for use with 4-pole, 20-amp. outlets. Cord hole—.437-.750 inch.

Cat. No.		Rating Amp	Rating Volts	Std Pkg	Carton
GE2775	Metal-clad compound —cord grip	20	250	20	10

G-E RANGE OUTLETS

3-WIRE FLUSH OUTLETS AND PLATES

Listed by the Underwriters' Laboratories, Inc.



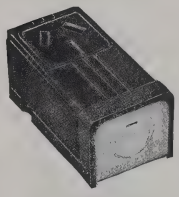
GE3036 with GE3037 plate

GE3036 fits SP52C18 cover (¾ inch) for SP5251S 4-in. square box; or SP72C18 cover (¾ inch) for SP72171 4$\frac{11}{16}$-inch square box.

Cat. No.	Rating Amp	Rating Volts	Std Pkg	Carton
Black Textolite Outlet				
GE3036	50	250	10	2
.040-in. Brush Brass Plate with Ground Clips				
GE3037	....	.....	10	2
Same—No Ground Clips				
GE3586	....	.....	10	2

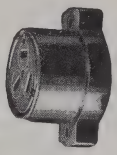
3-WIRE SURFACE OUTLETS

Listed by the Underwriters' Laboratories, Inc.



GE3000

GE3005



59196

GE3000 outlet is equipped with solderless connectors, cable clamp for either back or bottom wiring, pry-out knockouts, and 4th-wire grounding means. Can be wired straight in.

50 Amperes, 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE3000	Black Textolite surface outlet	10	2
GE3005	Ground strap for GE3000	10	2
59193	White porcelain surface outlet —round concealed base	10	2
59196	Black Textolite surface outlet —round concealed base	10	2

3-WIRE CAPS FOR RANGE OUTLETS

Listed by the Underwriters' Laboratories, Inc.

GE3023

GE3023 is especially styled for use with surface or flush range outlets GE3000 and GE3036. It has cable clamps and solderless connections for either rubber cord or RX.

Cat. No.	Rating Amp	Rating Volts	Std Pkg	Carton
Black Textolite—90° Angle Cap with Ground Prongs				
GE3023	50	250	10	2
Black Compound—.750 Cord Hole				
59195	30	250	10	2

G-E RANGE OUTLETS

3-WIRE RUBBER UNICORDS

Molded-on Rubber Plug

Listed by the Underwriters' Laboratories, Inc.

GE3002

These G-E Unicord cord sets have all-rubber plug molded directly to 3-wire rubber range cable. Plugs have contacts and leads molded firmly to the rubber cord. Conductors are welded to prongs of cap and no solder is used on the copper terminals. Cord set is 36 inches long. Single prong up.

Cat. No.	Rating Amp	Rating Volts	Std Pkg	Carton
2 No. 8 Awg and 1 No. 10 Awg Conductors				
GE3001	35	250	10	2
2 No. 6 Awg and 1 No. 8 Awg Conductors				
GE3002	50	250	10	2
3 No. 6 Awg Conductors				
GE3003	50	250	10	2

3-WIRE RUBBER CORD SETS

Textolite Caps

Listed by the Underwriters' Laboratories, Inc.

This range cord set is 36 in. long and has a molded Textolite cap. Conductors are welded to prongs of cap and no solder is used on the copper terminals. The heavy molded cap halves are riveted together and grip cable securely at neck of cap. Each cord set is equipped with clamp for attaching cable to range connector box.

GE3188

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3183	2 No. 8 Awg and 1 No. 10 Awg conductors	35	250	10	2
GE3188	2 No. 6 Awg and 1 No. 8 Awg conductors	50	250	10	2

G-E SPECIAL OUTLETS

FLUSH CLOCK HANGER OUTLET

Listed by the Underwriters' Laboratories, Inc.

Provides mechanical support and electrical connection for wall clocks. One piece construction — requires no flush plate. Designed so that cord and plug will fit into the recess of the outlet to allow clock to hang flat on wall. Can also be installed in mantel shelf to provide a convenient electrical connection for shelf clocks or lamps.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2942	Recessed outlet and hanger hook	15	10	10	2

G-E SPECIAL OUTLETS

FLUSH FAN HANGER OUTLET AND PLATE

Listed by the Underwriters' Laboratories, Inc.

This fan outlet can be readily secured to a fixture stud in outlet box — thus hanging the weight of the fan on the box and not on the cover or crossbar of the outlet. Sturdily constructed and will support any swivel or trunnion type fan. Plate is of .060 brush brass.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3035	Outlet with stud and plate	15	10	20	10

FLUSH WEATHER-RESISTANT OUTLET

Listed by the Underwriters' Laboratories, Inc.

This device provides a permanent, weather-resistant outlet for outdoor lighting or appliances, or for indoor installations subject to excessive moisture. When not in use, the outlet can be closed tightly against rain or moisture. Comes complete with rubber mat, cadmium-finished plate and weather-resistant cap.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE2959	Outdoor outlet	15	10	10	2

TANDEM-BLADE CAPS AND BODIES

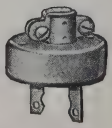
Double T-slots

Listed by the Underwriters' Laboratories, Inc.

These devices fill the need for caps with tandem blades and bodies with double T-slots. They are large sturdy devices of molded compound or composition.

GE3292

GE3294



GE3298

GE3293

GE3295

15 Amp, 125 Volts—10 Amp, 250 Volts

Cat. No.	Description	Cord Hole Inches	Std Pkg	Carton
GE3292	Black plastic cap	.406 ($\frac{13}{32}$)	100	10
GE3293	Black plastic body		100	10
GE3294	Black composition body	.406 ($\frac{13}{32}$)	50	10
GE3295	Black composition body—cord grip	.296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)	50	10
GE3298	Armored composition	.296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)	50	10

G-E TWIST-LOCK DEVICES

2-WIRE TWIST-LOCK TWIN FLUSH OUTLETS

Listed by the Underwriters' Laboratories, Inc.

GE3257

GE3258

Twist-Lock devices provide for the continuous operation of motor-driven tools and equipment. They are side-wired and have four binding screws. These outlets can be used with either polarized or non-polarized Twist-Lock caps. A slight twist of the cap locks it securely in the outlet. GE3257 fits standard twin convenience outlet plates.

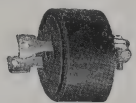
15 Amp., 125 Volts—10 Amp., 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE3257	Brown plastic twin outlet	50	10
GE3258	Brown plastic twin outlet—3¼-in. cadmium-finished cover	50	10
GE3259	Brown plastic twin outlet—4-in. cadmium-finished cover	30	5

2-WIRE TWIST-LOCK RUBBER CAPS

Listed by the Underwriters' Laboratories, Inc.

GE3260



GE3262

These G-E Twist-Lock black rubber caps are equipped with metal cord grips. GE3262 and GE-3263 are polarized — one wide and one narrow blade.

Cord holes: GE3260 and GE3262—.296-.562 ($\frac{19}{64}$-$\frac{9}{16}$) inches. GE3261 and GE3263—.406-.625 ($\frac{13}{32}$-$\frac{5}{8}$) inches.

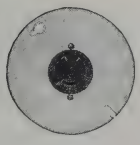
Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3260	Black rubber	15	10	50	10
GE3261	Black rubber	15	10	50	10
GE3262	Black rubber—polarized	15	10	50	10
GE3263	Black rubber—polarized	15	10	50	10

3-WIRE TWIST-LOCK FLUSH OUTLETS

15 Amp., 125 Volts—10 Amp., 250 Volts

Listed by the Underwriters' Laboratories, Inc.

GE3100



GE3101

GE3103

Cat. No.	Description	Std Pkg	Carton
	Single Brown Plastic Outlet		
GE3100	Polarized	50	10
GE3101	On 3¼-in. cadmium-plated cover—polarized	30	10
GE3102	On 4-in. cadmium-plated cover—polarized	30	5
	Twin Brown Plastic Outlet		
GE3103	Polarized	50	10
GE3104	On 4-in. cadmium-finished cover—polarized	30	5

G-E TWIST-LOCK DEVICES

3-WIRE TWIST-LOCK POLARIZED CAPS

Listed by the Underwriters' Laboratories, Inc.

GE3105

GE3107

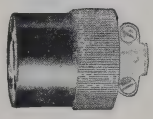
Black rubber polarized caps for 3-wire polarized Twist-Lock outlets. All caps have metal cord grips. GE3105 and GE3107 have .296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)-inch cord holes; GE3106 and GE3108 have .406-.625 ($\frac{13}{32}$-$\frac{5}{8}$)-inch cord holes.

15 Amp., 125 Volts—10 Amp., 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE3105	Black rubber—polarized	50	10
GE3106	Black rubber—polarized	50	10
GE3107	Black plastic—polarized	50	10
GE3108	Black plastic—polarized	50	10

3-WIRE TWIST-LOCK PLUG BODIES

Listed by the Underwriters' Laboratories, Inc.



GE3109

Brown plastic bodies have metal cord grips. Designed to be used with G-E Twist-Lock caps. GE3109 has .296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)-inch cord hole; GE-3110 has .406-.625 ($\frac{13}{32}$-$\frac{5}{8}$)-inch cord hole.

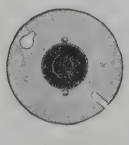
15 Amp., 125 Volts—10 Amp., 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE3109	Brown plastic—cord grip	50	10
GE3110	Brown plastic—cord grip	50	10

2-WIRE TWIST-LOCK SINGLE OUTLETS

Listed by the Underwriters' Laboratories, Inc.

GE3124



GE3125

GE3127

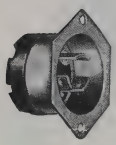
These outlets can be used with either polarized or non-polarized caps. Outlets are porcelain, covers are cadmium-finished. These devices fit any standard single outlet plate.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3124	Single flush outlet	20	250	50	10
GE3125	Single flush outlet, on 3¼-in. cadmium-finished cover	20	250	50	10
GE3126	Single flush outlet, on 4-in. cadmium-finished cover	20	250	30	5
GE3127	Single surface outlet, porcelain	20	250	50	10

G-E TWIST-LOCK DEVICES

3-WIRE TWIST-LOCK POLARIZED MOTOR BASES

Listed by the Underwriters' Laboratories, Inc.



GE3111

GE3112

These motor bases are made of brown plastic with a nickel-plated case. Use GE-3109 or GE3110 plug bodies with GE3111. Any 3-wire polarized Twist-Lock cap will fit GE3112.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3111	Flush base, male	15	10	50	10
GE3112	Flush base, female	15	10	50	10

2-WIRE TWIST-LOCK RUBBER CAPS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

Black rubber, heavy duty caps with metal cord grips. GE3114 and GE3116 are polarized.

GE3113 and GE3114 have .296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)-inch cord holes. GE-3115 and GE3116 have .406-.625 ($\frac{13}{32}$-$\frac{5}{8}$)-inch cord holes.

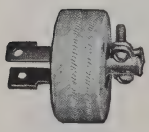
GE3113

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3113	Black rubber	20	250	30	10
GE3114	Black rubber, polarized	20	250	30	10
GE3115	Black rubber	20	250	30	10
GE3116	Black rubber, polarized	20	250	30	10

2-WIRE TWIST-LOCK METAL CAPS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.



GE3117

These caps are metal-covered and have metal cord grips. GE-3118 and GE3120 are polarized. These caps are recommended where service is severe.

GE3117 and GE3118 have .296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)-inch cord holes. GE-3130 and GE3120 have .406-.625 ($\frac{13}{32}$-$\frac{5}{8}$)-inch cord holes.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3117	Metal cap	20	250	30	10
GE3118	Metal cap, polarized	20	250	30	10
GE3130	Metal cap	20	250	30	10
GE3120	Metal cap, polarized	20	250	30	10

2-WIRE TWIST-LOCK PLASTIC CAPS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

Heavy-duty plastic caps. GE3122 is polarized. These devices have .406 ($\frac{13}{32}$)-inch cord hole.

20 Amp., 250 Volts

Cat. No.	Description	Std Pkg	Carton
GE3121	Brown plastic	50	10
GE3122	Brown plastic, polarized	50	10

G-E TWIST-LOCK DEVICES

2-WIRE TWIST-LOCK PLUG BASES

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

For either polarized or nonpolarized Twist-Lock caps. Fits standard Edison base receptacle. Black plastic.

Cat. No.	Rating Watts	Rating Volts	Std Pkg	Carton
GE3123	660	250	100	10

2-WIRE TWIST-LOCK CONNECTORS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

The upper half of these plastic bodies is covered with cadmium plated steel. All devices have metal cord grips. Bodies can be used with either Twist-Lock polarized or non-polarized caps.

GE3128

GE3128 has .296-.562 ($\frac{19}{64}$-$\frac{9}{16}$)-inch cord hole. GE3129 has .406-.625 ($\frac{13}{32}$-$\frac{5}{8}$)-inch cord hole.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3128	Connector	20	250	30	10
GE3129	Connector	20	250	30	10

2-WIRE TWIST-LOCK SURFACE MOTOR BASES

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

Designed for use with 2-wire Twist-Lock connector bodies, GE-3128 or GE3129. If polarity is required, use GE3132 motor base.

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3131	Brown plastic	20	250	30	10
GE3132	Same, Polarized	20	250	30	10

2-WIRE TWIST-LOCK FLUSH MOTOR BASES

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

These bases have nickel-plated cases and are designed for use with either GE3128 or GE3129 Twist-Lock connector bodies. If polarity is required, use GE3134.

GE3133

Cat. No.	Description	Rating Amp	Rating Volts	Std Pkg	Carton
GE3133	Flush base in casing	20	250	30	10
GE3134	Flush base in casing, polarized	20	250	30	10

G-E TWIST-LOCK DEVICES

3-WIRE TWIST-LOCK SINGLE RECEPTACLES

For A-C or D-C Operation

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

GE3135

GE3138

GE3140

These heavy-duty outlets are made of porcelain. Box covers are cadmium finish. GE3138 and GE-3135 fit any standard single convenience outlet plate.

Rating: GE3135—20 amp., 250 volt, a-c or d-c. GE3138, GE3139, and GE3140—20 amp., 250 volts, a-c or d-c; 10 amp., 575 volts, a-c only.

Cat. No.	Description	Std Pkg	Carton
GE3135	Single surface outlet	30	10
GE3138	Single flush outlet	30	10
GE3139	Single flush outlet, grounded	30	10
GE3140	Single flush outlet on 4-in. cadmium-finished cover	20	5

3-WIRE TWIST-LOCK POLARIZED CAPS

For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.

GE3136

These devices are designed for either a-c or d-c operation. All have metal cord grips. GE3137 has ground shunt from one contact to casing. All have .437-.750 ($\frac{7}{16}$-$\frac{3}{4}$)-inch cord hole.

Cat. No.	Description	Rating A-c or D-c Amp	Rating A-c or D-c Volt	Rating A-c Only Amp	Rating A-c Only Volt	Std Pkg	Carton
GE3136	Armored	20	250	10	575	30	10
GE3137	Armored	20	250	10	575	30	10
GE3146	Rubber	20	250	10	575	30	10

3-WIRE TWIST-LOCK CONNECTOR BODY

For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.

Bodies are black plastic, upper half is metal-covered with cord grip. Has .437-.750 ($\frac{7}{16}$-$\frac{3}{4}$) inch cord hole.

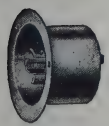
GE3141

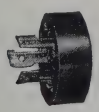
Cat. No.	Description	Rating A-c or D-c Amp	Rating A-c or D-c Volt	Rating A-c Only Amp	Rating A-c Only Volt	Std Pkg	Carton
GE3141	Plastic	20	250	10	575	30	10

3-WIRE TWIST-LOCK MOTOR BASES

For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.


GE3142


GE3143

Bases are composition, casings are nickel-plated. Designed for use with GE3141 connector body.

Rating: 20 amp. 250 volts, a-c or d-c; 10 amp. 575 volts, a-c only.

Cat. No.	Description	Std Pkg	Carton
GE3142	Flush base in casing, male	30	10
GE3143	Surface base, male	30	10

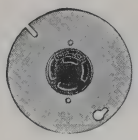
G-E TWIST-LOCK DEVICES

4-WIRE TWIST-LOCK SINGLE OUTLETS

For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.

GE3148


GE3150

These 4-wire flush outlets require special plate GE997 listed below. GE3144, GE-3145, and GE3147 four-wire Twist-Lock caps are designed for use with these outlets.

Rating: 20 amp. 250 volts a-c or d-c; 10 amp., 575 volts, a-c only.

Cat. No.	Description	Std Pkg	Carton
GE3148	Single outlet, porcelain	20	10
GE3149	Single grounded outlet, porcelain	20	10
GE3150	Single grounded outlet, porcelain, on 4-in. cadmium finished cover	15	5
GE997	Brush brass plate	30	10

4-WIRE TWIST-LOCK POLARIZED CAPS

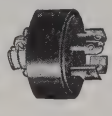
For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.

These caps have metal cord grips. All have .437-.750 ($\frac{7}{16}$-$\frac{3}{4}$)-inch cord hole.

Rating: 20 amp., 250V. a-c or d-c; 10 amp., 575V. a-c only.

GE3144

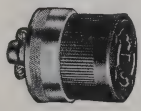

GE3147

Cat. No.	Description	Std Pkg	Carton
GE3144	Armored composition	20	10
GE3145	Armored composition, grounded	20	10
GE3147	Black rubber	30	10

4-WIRE TWIST-LOCK CONNECTOR BODY

For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.


GE3151

Body is plastic, upper half is metal-covered with cord grip. Matches GE3144 and GE3145. Cord hole—.437-.750 ($\frac{7}{16}$-$\frac{3}{4}$) inches.

Rating: 20 amp., 250 volts a-c or d-c; 10 amp., 575 volts a-c only.

Cat. No.	Description	Std Pkg	Carton
GE3151	Connector body	20	10

MINIATURE TWIST-LOCK CONNECTOR BODIES

Listed by the Underwriters' Laboratories, Inc.

May be used with either polarized or non-polarized miniature Twist-Lock caps. GE3155 has .375 ($\frac{3}{8}$)-inch cord hole; GE3160 has .218-.312 ($\frac{7}{32}$-$\frac{5}{16}$)-inch cord hole.

GE3160

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3155	Black plastic	15	10	50	10
GE3160	Black plastic, cord grip	15	10	50	10

G-E TWIST-LOCK DEVICES

4-WIRE TWIST-LOCK MOTOR BASES

For A-C or D-C Operation

Listed by the Underwriters' Laboratories, Inc.

GE3152

GE3153

Bases are plastic, casings are nickel-plated. Designed for use with GE3151 connector body.

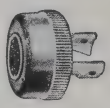
Rating: 20 amp., 250V. a-c or d-c; 10 amp. 575 V. a-c only.

Cat. No.	Description	Std. Pkg.	Carton
GE3152	Flush base in casing, male	20	10
GE3153	Surface base, male	20	10

MINIATURE TWIST-LOCK CONNECTOR CAPS

Listed by the Underwriters' Laboratories, Inc.

Caps are furnished either polarized or non-polarized, with or without cord grips. Designed for use with miniature Twist-Lock connector bodies or flush motor bases.



GE3156

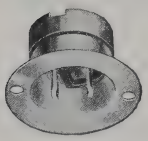
GE3161

GE3156 and GE3158 have .375 (⅜)-inch cord hole; GE3161 and GE3163 have .218-.312 (7/32-5/16)-inch cord hole. Rating: 15 amp., 125 volts; 10 amp., 250 volts.

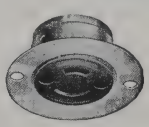
Cat. No.	Description	Std. Pkg.	Carton
GE3156	Black plastic	50	10
GE3158	Black plastic, polarized	50	10
GE3161	Black plastic, cord grip	50	10
GE3163	Black plastic, cord grip polarized	50	10

MINIATURE TWIST-LOCK MOTOR BASES

Listed by the Underwriters' Laboratories, Inc.



GE3164



GE3166

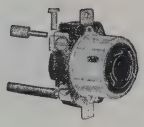
GE3166 can be used with either polarized or non-polarized miniature Twist-Lock caps. GE3164 and GE3165 fit miniature Twist-Lock connector bodies.

Cat. No.	Description	Amperes 125V.	Amperes 250V.	Std. Pkg.	Carton
GE3164	Flush base, male	15	10	50	10
GE3165	Flush base, male, polarized	15	10	50	10
GE3166	Flush base, female	15	10	50	10

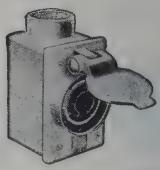
G-E TWIST-LOCK DEVICES

3-WIRE TWIST-LOCK POLARIZED FLUSH OUTLETS AND PLATES

Listed by the Underwriters' Laboratories, Inc.



GE3399



GE3399 and GE3401

Outlets have solderless connectors which can be swiveled for wire connection from side or bottom as indicated. Rating: GE3399 and GE3400 — 50 amp., 250 volts d-c; 50 amp., 600 volts a-c.

Cat. No.	Description	Std. Pkg.	Carton
GE3399	Flush outlet	5	2
GE3400	Flush outlet, grounded	5	2
GE3401	Cast-iron plate with lift cover	5	2
GE3402	Cast-iron plate without lift cover	5	2

3-WIRE TWIST-LOCK CONNECTORS

Heavy-duty

Listed by the Underwriters' Laboratories, Inc.

GE3405

GE3416

These devices have solderless connections and rubber cable grips. The long contact of the cap and the corresponding contact of the body are connected electrically to the casing to provide grounding. For equipment ground, and additional terminal for a fourth wire is provided. This fourth wire or equipment ground is connected to the outer casing.

Not Grounded

Cat. No.	Description	Cord Hole Inches	Amperes 250V. d-c	Amperes 600V. a-c	Std. Pkg.	Carton
GE3403	female body	.562- .687	50	50	5	2
GE3404	female body	.687- .812	50	50	5	2
GE3405	female body	.812- .937	50	50	5	2
GE3406	female body	.938-1.062	50	50	5	2
GE3413	male cap	.437- .562	50	50	5	2
GE3414	male cap	.562- .687	50	50	5	2
GE3415	male cap	.687- .812	50	50	5	2
GE3416	male cap	.812- .937	50	50	5	2
GE3417	male cap	.937-1.062	50	50	5	2

Grounded to Casing

GE3407	female body	.812- .937	50	50	5	2
GE3418	male cap	.437- .562	50	50	5	2
GE3419	male cap	.562- .687	50	50	5	2
GE3420	male cap	.687- .812	50	50	5	2
GE3421	male cap	.812- .937	50	50	5	2

With Equipment Ground

GE3408	female body	.437- .562	50	50	5	2
GE3409	female body	.562- .687	50	50	5	2
GE3410	female body	.687- .812	50	50	5	2
GE3411	female body	.812- .937	50	50	5	2
GE3412	female body	.937-1.062	50	50	5	2
GE3422	male cap	.437- .562	50	50	5	2
GE3423	male cap	.562- .687	50	50	5	2
GE3424	male cap	.687- .812	50	50	5	2
GE3425	male cap	.812- .937	50	50	5	2
GE3426	male cap	.937-1.062	50	50	5	2

G-E PILOT LIGHT RECEPTACLES

Listed by the Underwriters' Laboratories, Inc.

GE853

GE2331

GE2296

Designed for use with plates having rectangular or round removable bull's eyes. Furnished with lamp. Pilot light, rated 75 amp., 125 volts.

Cat. No.	Description	Std Pkg	Carton
GE853	Pilot light	30	10
GE2296	Round ruby glass bull's eye—brush brass frame	30	10
GE2331	Rectangular ruby glass bull's eye	30	10

G-E WALL PLATES

UNILINE PLATES

Furnished complete with brown or ivory enameled screws. Blank plates and telephone plates are furnished with steel box mounting supports.

Brown Compound

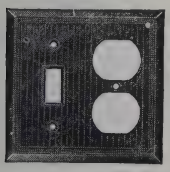
GU91071

GU91081

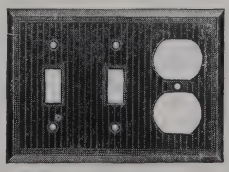
GU91091

GU91121

Cat. No.	Description	Std Pkg	Carton
GU91071	1-gang tumbler switch	100G	10G
GU91072	2-gang tumbler switch	100G	10G
GU91073	3-gang tumbler switch	100G	10G
GU91074	4-gang tumbler switch	100G	10G
GU91075	5-gang tumbler switch	100G	10G
GU91076	6-gang tumbler switch	100G	10G
GU91081	1-gang push button switch	100G	10G
GU91121	1-gang blank	50G	10G
GU91122	2-gang blank	50G	10G
GU91181	1-gang telephone	50G	10G
GU91091	1-gang single conv. outlet	100G	10G
GU91101	1-gang twin conv. outlet	100G	10G
GU91102	2-gang twin conv. outlet	100G	10G



GU91532



GU91543

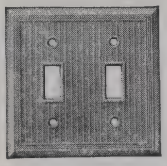
G-E WALL PLATES

UNILINE PLATES

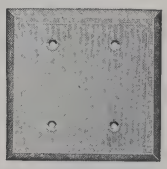
Brown Compound

Cat. No.	Description	Std Pkg	Carton
GU91512	2-gang single tumbler and single outlet	10	2
GU91532	2-gang single tumbler and twin outlet	10	2
GU91523	3-gang two tumbler and single outlet	10	2
GU91543	3-gang two tumbler and twin outlet	10	2
GU91554	4-gang three tumbler and twin outlet	10	2
GU91572	2-gang single outlet and twin outlet	10	2

Ivory Compound



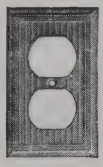
GU92072



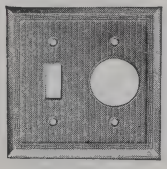
GU92122

GU92071	1-gang tumbler switch	50G	10G
GU92072	2-gang tumbler switch	50G	10G
GU92073	3-gang tumbler switch	50G	10G
GU92074	4-gang tumbler switch	50G	10G
GU92075	5-gang tumbler switch	50G	10G
GU92076	6-gang tumbler switch	50G	10G
GU92081	1-gang push button switch	50G	10G

Ivory Compound



GU92101



GU92512

GU92181

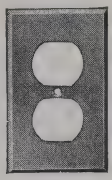
Cat. No.	Description	Std Pkg	Carton
GU92121	1-gang blank	30G	10G
GU92122	2-gang blank	30G	10G
GU92181	1-gang telephone	30G	10G
GU92091	1-gang single outlet	50G	10G
GU92101	1-gang twin outlet	50G	10G
GU92102	2-gang twin outlet	50G	10G
GU92512	2-gang single tumbler and single outlet	10	2
GU92532	2-gang single tumbler and twin outlet	10	2
GU92523	3-gang two tumbler and single outlet	10	2
GU92543	3-gang two tumbler and twin outlet	10	2
GU92554	4-gang three tumbler and twin outlet	10	2
GU92572	2-gang single outlet and twin outlet	10	2

G-E WALL PLATES

CHROMIUM-FINISHED PLATES

Flush outlet and tumbler switch plates with a polished chromium finish on .040-inch brass.

GE2951-P



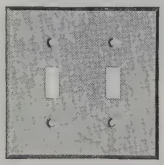
GE2956-P

Cat. No.	Description	Std Pkg	Carton
GE2951-P	1-gang tumbler switch	100	20
GE2952-P	2-gang tumbler switch	50	10
GE2953-P	3-gang tumbler switch	25	5
GE2954-P	4-gang tumbler switch	10	1
GE2955-P	1-gang single convenience outlet	100	20
GE2956-P	1-gang twin convenience outlet	50	10

BRASS TUMBLER SWITCH PLATES

These flush tumbler switch plates are available in brush brass finish with either .040-inch metal or .060-inch metal. All plates are furnished complete with necessary screws.

GE1701



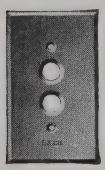
GE1742

.040-inch Brass

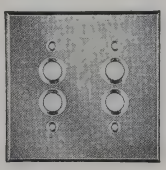
Cat. No.	Description	Std Pkg	Carton
GE1701	1-gang tumbler switch	100	20
GE1702	2-gang tumbler switch	50	10
GE1703	3-gang tumbler switch	25	5
GE1704	4-gang tumbler switch	10	1
GE1705	5-gang tumbler switch	10	1
GE1706	6-gang tumbler switch	5	1
GE1707	7-gang tumbler switch	5	1
GE1708	8-gang tumbler switch	5	1
	.060-inch Brass		
GE1741	1-gang tumbler switch	100	20
GE1742	2-gang tumbler switch	50	10
GE1853	3-gang tumbler switch	25	5
GE1854	4-gang tumbler switch	10	1
GE1855	5-gang tumbler switch	10	1
GE1856	6-gang tumbler switch	5	1
GE1857	7-gang tumbler switch	5	1
GE1858	8-gang tumbler switch	5	1

BRUSH BRASS PUSH BUTTON PLATES

Push button plates of .040-inch metal with brush brass finish. Complete with screws.



GE232



GE233

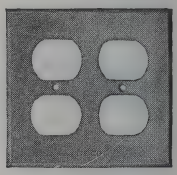
Cat. No.	Description	Std Pkg	Carton
GE232	1-gang push button switch	100	20
GE233	2-gang push button switch	50	10
GE234	3-gang push button switch	25	5

G-E WALL PLATES

BRUSH BRASS OUTLET PLATES

Available in either .040-inch or .060-inch metal. Complete with screws.

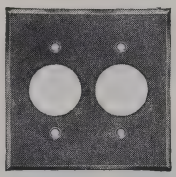
49491



GE1650

.040-inch Brass

Cat. No.	Description	Std Pkg	Carton
49491	1-gang single convenience outlet	100	20
GE997	1-gang single for GE996 cutout only	30	10
GE1649	2-gang single convenience outlet	10	1
GE695	1-gang twin convenience outlet	50	10
GE1650	2-gang twin convenience outlet	10	1
GE1909	3-gang twin convenience outlet	10	1



GE1789

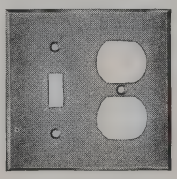
GE1788

.060-inch Brass

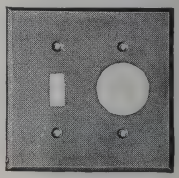
GE1787	1-gang single convenience outlet	100	20
GE1789	2-gang single convenience outlet	10	1
GE1788	1-gang twin convenience outlet	50	10
GE1790	2-gang twin convenience outlet	10	1

COMBINATION BRUSH BRASS PLATES

These plates are available for single or twin convenience in either .040-inch or .060-inch metal. All plates are furnished with necessary screws.



GE1792

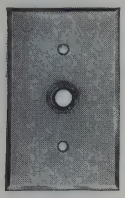


GE2021

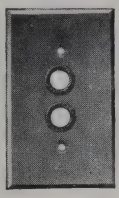
.040-inch Brass	.060-inch Brass	Description	Std Pkg	Carton
GE1791	GE2021	2-gang tumbler switch and single outlet	10	1
GE1792	GE2022	2-gang tumbler switch and twin outlet	10	1
GE2456	GE2458	3-gang two tumbler switch and single outlet	10	1
GE2453	GE2455	3-gang two tumbler switch and twin outlet	10	1

G-E FLUSH PLATES

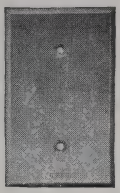
BRUSH BRASS TELEPHONE AND BLANK PLATES



GE2129



GE2086



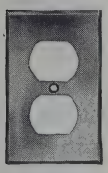
GE2186

Cat. No.	Description	Std Pkg	Carton
	.040-inch Brass		
GE2129	Single-gang single telephone	50	10
GE2086	Single-gang double telephone	50	10
GE2178	Single-gang blank	50	10
	.060-inch Brass		
GE2140	Single-gang single telephone	50	10
GE2186	single-gang blank	50	10

SOLID BRASS COMBINATION PLATES

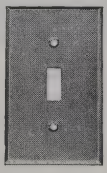
G*
Single telephone with ¾" compound bushing

The plates shown below are made up special as ordered. They may not be returned for credit. Available in solid brass (.100 inch) only — brush brass finish. Screw holes are 2⅜ inches on centers. Openings on horizontal plates 1⅛ inches on centers. This listing covers plates identified by two or more different letters and of standard dimensions and screw spacing only. For gang plates for one type of device only, see respective standard plate listings. Standard package, 10 plates of one kind (not 10 gangs). Carton, 1 plate. Prices on application.

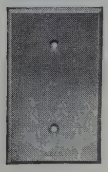


D
Double Outlet

F
Single Outlet

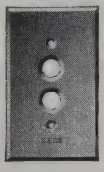


I
Tumbler Switch



L*
Blank

M**
Single Outlet



P
Push Button Switch

The arrangement of the devices to be mounted will govern the order of the letters identifying the combination plate desired. For example, a plate for two GE2841 tumbler switches and one GE2679 twin outlet mounted horizontally in that order, is identified as an IID plate. A plate for the same devices mounted vertically is an I / I / D plate.

*Steel box mounting support furnished.
**For use with D.P. polarity flush receptacle GE996. Cannot be mounted in 2-gang box horizontally.

G-E FLUSH PLATES

SPECIAL FLUSH PLATES AND ACCESSORIES

PLATES OF SPECIAL DIMENSIONS AND SCREW SPACINGS (.100-inch Metal Only)

Standard package quantity, 10 plates of one style and size. Carton quantity, 1 plate.

Detail sketch giving all dimensions and specifications will be required.

PLATES WITH ROUND CORNERS AND ROUND EDGES (.100-inch Metal Only)

Standard package, 10 plates of one style. Carton quantity, 1 plate.

PLATES WITH ROUND CORNERS AND BEVELED EDGES (.100-inch Metal Only)

Standard package, 10 plates of one style. Carton quantity, 1 plate.

PLATES WITH RAISED EDGES (.100-inch Metal Only)

Where it is desirable to raise the plate because of obstructions or projections, solid plates can be furnished with a raised edge. Quotations for plates of this character will be given upon receipt of detailed information as to the style of plate and height of offset required.

Standard package, 10 plates of one style. Carton, 1 plate.

PLATES WITH SQUARE EDGES (.100-inch Metal Only)

Standard package, 10 plates of one style. Carton quantity, 1 plate.

PLATES OF SPECIAL METAL

The standard finish of rolled bronze plates is brush bronze. Standard package quantity and carton quantity same as for corresponding standard brass plates. No assortment permitted.

ENGRAVING

Flush plates may be engraved with identifying words or numbers, deeply etched in block design of any desired height. Standard package, 10 plates of one style. Carton quantity, 1 plate.

FLUSH PLATE SCREWS

Oval head flush plate screws finished to match plates are regularly supplied with all flush plates. When purchased separately, standard package, 100.

SPECIAL FINISHES

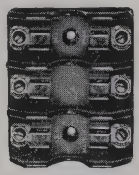
The standard finish on all brass flush plates is brush brass, and this finish will be furnished on all orders where no finish is specified (excepting of course, where a catalog number designates a particular finish as in the case on standard chromium-finish plates).

G-E ENCLOSED FUSE CUTOUTS

250 VOLTS

Listed by the Underwriters' Laboratories, Inc.

189666

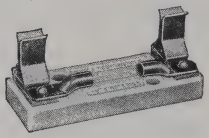


34372

1 to 30 Amperes, 250 Volts

Cat. No.	Description	Std Pkg	Carton
189666	Single pole, mainline with barriers, Textolite	50	5
GE3428	Single pole, mainline with barriers, porcelain	50	5
36802	Single pole, mainline without barriers, porcelain	50	5
34367	Double pole, mainline, Textolite	50	5
34372	Triple pole, mainline, Textolite	50	5

36803



34964

31 to 60 Amperes, 250 Volts

Cat. No.	Description	Std Pkg	Carton
36803	Single pole, mainline, porcelain	50	5
34376	Double pole, mainline, porcelain	50	1
34377	Triple pole, mainline, porcelain	50	1

61 to 100 Amperes, 250 Volts

34964	Single pole, porcelain	50	1
36801	Double pole, porcelain	50	1
36800	Triple pole, porcelain	25	1

34971

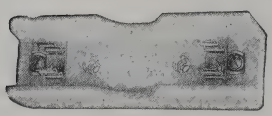
250 Volts

Cat. No.	Description	Amp	Std Pkg	Carton
34971	Single pole, slate base	101-200	25	1
34982	Single pole, slate base	201-400	10	1
36471	Single pole, slate base	401-600	5	1

ENCLOSED FUSE CUTOUTS—600 VOLTS

Listed by the Underwriters' Laboratories, Inc.

34991



189667

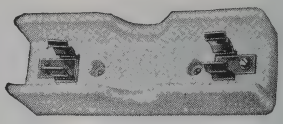
1 to 30 Amp., 600 Volts

Cat. No.	Description	Std Pkg	Carton
34991	Single pole	50	5
189667	Single pole with barriers	50	5

G-E ENCLOSED FUSE CUTOUTS

600 VOLTS

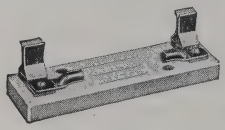
Listed by the Underwriters' Laboratories, Inc.



219920

31 to 60 Amp., 600 Volts

Cat. No.	Description	Std Pkg	Carton
219920	Single pole with barriers	50	1
35101	Single pole	50	5



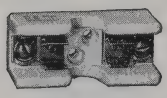
21474

35114

Cat. No.	Description	Amp 600 V	Std Pkg	Carton
21474	Single pole	61-100	25	1
35114	Single pole, slate base	101-200	25	1
35125	Single pole, slate	201-400	10	1
36479	Single pole, slate	401-600	5	1

INSTRUMENT PROTECTION CUTOUTS 600 VOLTS

Listed by the Underwriters' Laboratories, Inc.



111381

1.8 Amp., 600 Volts

Cat. No.	Description	Std Pkg	Carton
111381	Single pole	50	10
104846	Double pole	50	10

ELECTROLIER FUSE CUTOUTS—250 VOLTS

Listed by the Underwriters' Laboratories, Inc.

Cat. No.	Description	Std Pkg	Carton
42412	S. pole	100	50
GE705	D. pole	100	25

42412

IDEAL FUSE REDUCERS

Protect overfused circuits without expense of special fuses, change in switch panel or equipment. Eliminate fire hazards and burnouts. Handy for emergency use. Fully approved. Listed by Underwriters' Laboratories.

250-Volt Cat. No.	Ampere	Price Each	600-Volt Cat. No.	Ampere	Price Each
*33-001	60-30	$1.20	*33-025	60-30	$2.20
*33-002	100-30	2.00	33-026	100-30	2.30
*33-003	100-60	2.00	*33-027	100-60	3.20
33-006	200-100	5.30	*33-030	200-100	6.00
*33-010	400-200	10.60	*33-034	400-200	11.90
*33-015	600-400	13.20	33-039	600-400	14.50

Other sizes and prices upon request. *Stock Items.

IDEAL FUSE CLIP CLAMPS

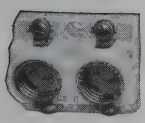
Eliminate unnecessary watt loss, fuse and fuse clip replacement. Assure proper alignment and positive contact between fuse and clips. The seven sizes listed provide for all possible requirements.

Cat. No.	Size, Amps. 250V.	Size, Amps. 600V.	Std. Pkg.	Price Each
	Ferrule Type			
32-001	30	----	12	$0.88
32-002	60	30	12	1.12
32-003	----	60	6	1.50
	Knife Type			
32-004	100	100	6	1.38
32-005	200	200	6	2.12
32-006	400	400	6	2.88
32-007	600	600	6	4.12

G-E PLUG FUSE CUTOUTS

DOUBLE-FUSED CIRCUIT CUTOUTS

Listed by the Underwriters' Laboratories, Inc.



62965

62199

3 to 30 Amp., 125-250 Volts

Cat. No.	Description	Std. Pkg.	Carton
62569	Single pole, mainline	100	10
62965	Double pole, mainline	50	10
62165	Triple pole, mainline	25	5
62199	3 to 2 wire, double branch	25	5

LOCKING PLUGS

Listed by the Underwriters' Laboratories, Inc.

GE2358

Where it is desired to lock a circuit open, these locking plugs may be inserted in plug fuse cutouts. Locked into screw shell by means of a locking ratchet which can be released by key.

Cat. No.	Description	Std. Pkg.	Carton
GE2358	Locks circuit open	100	50
GE2537	Key (order separately)	100	10

GROUND PLUG

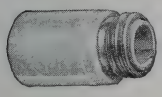
Listed by the Underwriters' Laboratories, Inc.

Used to permanently close circuit, making the triple pole cutout meet code requirements so that on a 3-wire grounded service, the neutral will be unfused.

Cat. No.	Description	Std. Pkg.	Carton
GE2303	For permanently grounding neutral	100	50

RENEWABLE FUSE PLUG CASING

Listed by the Underwriters' Laboratories, Inc.



125 Volts
Medium Screw Base

This device makes it possible to adapt a standard enclosed fuse to a plug fuse cutout.

Cat. No.	Description	Std Pkg	Carton
36093	Casing for 1 to 30 amp enclosed fuses	100	10

G-E PLUG FUSES

TRANSPARENT-TOP PLUG FUSES

Listed by the Underwriters' Laboratories, Inc.

Heat-resistant, transparent-top plug fuses with easy-to-read ratings. Insulated grip. Glass compound used in these plugs is extra tough, and is highly resistant to breakage and chipping.

PY15

Cat. No.	Description	Rating Ampere	Rating Volts	Std. Pkg.	Carton
PY 3	plug fuse	3	125	500	50
PY 6	plug fuse	6	125	500	50
PY10	plug fuse	10	125	500	50
PY15	plug fuse	15	125	500	50
PY20	plug fuse	20	125	500	50
PY25	plug fuse	25	125	500	50
PY30	plug fuse	30	125	500	50

TRANSPARENT-TOP PLUG FUSE MERCHANDISER

An attractive counter merchandiser lithographed in blue, red, yellow, and black. Designed to remind customers to stock up on fuses. Merchandiser shipped complete with 200 fuses (40 cartons) as follows: 20 cartons of 15 amp fuses, 10 cartons of 20 amp fuses, and 10 cartons of 30 amp fuses. Display holds half of this quantity.

Each merchandiser is 11⅞-in. high, 6⅜-in. wide, and 5⅞-in. deep. Complete instructions for setting up are given on back of merchandiser.

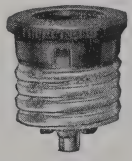
Cat. No.	Description	Std. Pkg.	Carton
GE3603	Merchandiser and 200 plug fuses assorted as follows: 100 PY15, 50 PY20, 50 PY30	10	1

TAMRES PLUG FUSES

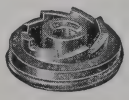
Listed by Underwriters' Laboratories, Inc.

G-E Tamres plug fuses serve (1) as a standard plug fuse when used without the Tamres adapter, and (2) as a tamper-resistant plug fuse when used with the adapter.

These Tamres plug fuses have standard medium Edison bases and fit any standard fuseholders or cutout. The adapter fits on the base of the fuse, and screws in the cutout ready to receive the same or another Tamres fuse. Adapters are available with or without locking springs.



TR20



TR10

Cat No.	Description	Rating Amp.	Rating Volts
TR15	plug fuse	15	125
TR20	plug fuse	20	125
TR25	plug fuse	25	125
TR30	plug fuse	30	125
TR40	adapter for TR15	----	------
TR41	adapter, locking spring, for TR15	----	------
TR50	adapter for TR20, TR25, TR30	----	------
TR51	adapter, locking spring, for TR20, TR25, TR30	----	------

Standard package, 500; carton, 50.

G-E ENCLOSED RENEWABLE FUSES

TIME-DELAY FUSES AND RENEWAL LINKS

250 VOLTS

Listed by the Underwriters' Laboratories, Inc.

GF1A30

GF5A30

G-E renewable fuses feature an extremely accurate time delay that keeps the fuse on the job regardless of the number of harmless, momentary overloads. At the same time, they give quick protection against harmful overloads and short circuits. These new fuses have an improved, sturdy construction and consist of but a few, easily assembled parts. The unique designed fuse link is simple to remove and to insert, and is provided with positive mechanical and electrical connection.

Fuses With Links	Std. Pkg.	Carton	Rating Amp.	Rating Volts	Renewal Links	Std. Pkg.	Carton
GF1A3	100	10	3	250	GF5A3	100	100
GF1A6	100	10	6	250	GF5A6	100	100
GF1A10	100	10	10	250	GF5A10	100	100
GF1A15	100	10	15	250	GF5A15	100	100
GF1A20	100	10	20	250	GF5A20	100	100
GF1A25	100	10	25	250	GF5A25	100	100
GF1A30	100	10	30	250	GF5A30	100	100
GF1A35	100	10	35	250	GF5A35	100	100
GF1A40	100	10	40	250	GF5A40	100	100
GF1A45	100	10	45	250	GF5A45	100	100
GF1A50	100	10	50	250	GF5A50	100	100
GF1A60	100	10	60	250	GF5A60	100	100

GF1A100

GF5A100

Fuses With Links	Std. Pkg.	Carton	Rating Amp.	Rating Volts	Renewal Links	Std. Pkg.	Carton
GF1A70	50	5	70	250	GF5A70	50	50
GF1A80	50	5	80	250	GF5A80	50	50
GF1A90	50	5	90	250	GF5A90	50	50
GF1A100	50	5	100	250	GF5A100	50	50
GF1A110	25	1	110	250	GF5A110	25	25
GF1A125	25	1	125	250	GF5A125	25	25
GF1A150	25	1	150	250	GF5A150	25	25
GF1A175	25	1	175	250	GF5A175	25	25
GF1A200	25	1	200	250	GF5A200	25	25
GF1A225	10	1	225	250	*GF5A225	25	25
GF1A250	10	1	250	250	*GF5A250	25	25
GF1A300	10	1	300	250	*GF5A300	25	25
GF1A350	10	1	350	250	*GF5A350	25	25
GF1A400	10	1	400	250	*GF5A400	25	25
GF1A450	5	1	450	250	#GF5A450	10	10
GF1A500	5	1	500	250	#GF5A500	10	10
GF1A600	5	1	600	250	#GF5A600	10	10

G-E ENCLOSED RENEWABLE FUSES

TIME-DELAY FUSES AND RENEWAL LINKS

600 VOLTS

Listed by the Underwriters' Laboratories, Inc.

GF1B6

GF5B6

Fuses With Links	Std. Pkg.	Carton	Rating Amp.	Rating Volts	Renewal Links	Std. Pkg.	Carton
GF1B3	100	10	3	600	GF5B3	100	100
GF1B6	100	10	6	600	GF5B6	100	100
GF1B10	100	10	10	600	GF5B10	100	100
GF1B15	100	10	15	600	GF5B15	100	100
GF1B20	100	10	20	600	GF5B20	100	100
GF1B25	100	10	25	600	GF5B25	100	100
GF1B30	100	10	30	600	GF5B30	100	100
GF1B35	100	10	35	600	GF5B35	100	100
GF1B40	100	10	40	600	GF5B40	100	100
GF1B45	100	10	45	600	GF5B45	100	100
GF1B50	100	10	50	600	GF5B50	100	100
GF1B60	100	10	60	600	GF5B60	100	100

GF1B70

GF5B70

Fuses With Links	Std. Pkg.	Carton	Rating Amp.	Rating Volts	Renewal Links	Std. Pkg.	Carton
GF1B70	50	5	70	600	GF5B70	50	50
GF1B80	50	5	80	600	GF5B80	50	50
GF1B90	50	5	90	600	GF5B90	50	50
GF1B100	50	5	100	600	GF5B100	50	50
GF1B110	25	1	110	600	GF5B110	25	25
GF1B125	25	1	125	600	GF5B125	25	25
GF1B150	25	1	150	600	GF5B150	25	25
GF1B175	25	1	175	600	GF5B175	25	25
GF1B200	25	1	200	600	GF5B200	25	25
GF1B225	10	1	225	600	*GF5B225	25	25
GF1B250	10	1	250	600	*GF5B250	25	25
GF1B300	10	1	300	600	*GF5B300	25	25
GF1B350	10	1	350	600	*GF5B350	25	25
GF1B400	10	1	400	600	*GF5B400	25	25
GF1B450	5	1	450	600	#GF5B450	10	10
GF1B500	5	1	500	600	#GF5B500	10	10
GF1B600	5	1	600	600	#GF5B600	10	10

*Covers two links which comprise the fuse elements for fuses of this capacity.

#Covers four links.

Note: Extra fuse casing labels showing list ratings are furnished with links.

G-E ENCLOSED ONE-TIME FUSES

Listed by the Underwriters' Laboratories, Inc.

G-E One-time enclosed fuses meet all the requirements of the Underwriters' Laboratories standard for fuses.

Uniformity of fuse elements is attained by use of special high-purity zinc. Accuracy of rating is provided by thickness and contour controls of the fuse links. Proper protection against short circuits and overloads is maintained at all times by carefully made solder connections and proper alignment of contact surfaces. Increased strength and rigidity is provided in all knife-blade fuses by a steel reinforcing member.

When a fuse blows, a special granular fuse filler material serves to absorb the arc energy to effectively interrupt the circuit. Silvend fuses, with silver-plated contacts, are for use with control equipment, panels, and switchboards, and other apparatus where the contacts on the fuse clips are silver-plated.

GF4A30
250 Volts

GF4B10
600 Volts

Amp.	250 Volts Standard Cat. No.	250 Volts Silvend* Cat. No.	600 Volts Standard Cat. No.	600 Volts Silvend* Cat. No.	Std. Pkg.	Carton
1	GF4A1	.....	GF4B1	.....	100	10
3	GF4A3	GE3167	GF4B3	GE3203	100	10
6	GF4A6	GE3168	GF4B6	GE3204	100	10
10	GF4A10	GE3169	GF4B10	GE3005	100	10
15	GF4A15	GE3170	GF4B15	GE3206	100	10
20	GF4A20	GE3171	GF4B20	GE3207	100	10
25	GF4A25	GE3172	GF4B25	GE3208	100	10
30	GF4A30	GE3173	GF4B30	GE3209	100	10
35	GF4A35	GE3174	GF4B35	GE3210	100	10
40	GF4A40	GE3175	GF4B40	GE3211	100	10
45	GF4A45	GE3267	GF4B45	GE3212	100	10
50	GF4A50	GE3176	GF4B50	GE3213	100	10
60	GF4A60	GE3177	GF4B60	GE3214	100	10

GF4A100—250 Volts

GF4B100—600 Volts

Amp.	250 Volts Standard Cat. No.	250 Volts Silvend* Cat. No.	600 Volts Standard Cat. No.	600 Volts Silvend* Cat. No.	Std. Pkg.	Carton
70	GF4A70	GE3178	GF4B70	GE3215	50	5
80	GF4A80	GE3268	GF4B80	GE2316	50	5
90	GF4A90	GE3269	GF4B90	GE3217	50	5
100	GF4A100	GE3179	GF4B100	GE3218	50	5
110	GF4A110	GE3270	GF4B110	GE3219	25	1
125	GF4A125	GA3271	GF4B125	GE3220	25	1
150	GF4A150	GE3180	GF4B150	GE3221	25	1
175	GF4A175	GE3272	GF4B175	GE3222	25	1
200	GF4A200	GE3273	GF4B200	GE3223	25	1
225	GF4A225	GE3274	GF4B225	GE3224	10	1
250	GF4A250	GE3275	GF4B250	GE3225	10	1
300	GF4A300	GE3276	GF4B300	GE3226	10	1
350	GF4A350	GE3277	GF4B350	GE3227	10	1
400	GF4A400	GE3181	GF4B400	GE3228	10	1
450	GF4A450	GE3278	GF4B450	GE3229	5	1
500	GF4A500	GE3279	GF4B500	GE3230	5	1
600	GF4A600	GE3182	GF4B600	GE3231	5	1

*Not stock item.

G-E ENCLOSED NONRENEWABLE FUSES

SILVEND FUSES FOR G-E COMBINED SWITCHES AND CUTOUTS—600 VOLTS

Listed by the Underwriters' Laboratories, Inc.

GE3536

Silver-plated contacts eliminate heating that is caused by oxidation. GE3536, GE3537 and GE3539 are made to fit switches No. 21644*, 27682* and GE629*, respectively. GE3538 is made to fit GE-628 single-pole surface rotary switch.

Cat. No.	Rating Amps.	Rating Volts	Std. Pkg.	Carton
GE3536	3	600	100	10
GE3537	5	600	100	10
GE3538	10	600	100	10
GE3539	15	600	100	10

*Dropped item.

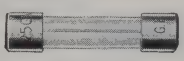
INSTRUMENT PROTECTIVE FUSES 600 VOLTS

Listed by the Underwriters' Laboratories, Inc.

Cat. No.	Rating Amps.	Rating Volts	Std. Pkg.	Carton
111382	1.8	600	100	10

ENCLOSED INDICATING GLASS TUBE FUSES 250 VOLTS

Listed by the Underwriters' Laboratories, Inc.



No. 132765

Cat. No.	Rating Amp.	Rating Volts	Std. Pkg.	Carton
132765	1	250	100	50
132766	2	250	100	50
132767	3	250	100	50

BUSS HOLDER AND FUSE ASSEMBLIES

Provide simplest way to protect spot lights, radios or any instrument or equipment. Consists of in-the-line holder with fuse and 19-inch loop of No. 14 wire already staked and soldered to terminals. Plenty of wire to make installation easy. Holder can also be mounted on panel up to $\frac{3}{8}$ inch thick by use of a spring nut furnished with assembly.

No.	Description	List
HRJ	complete with SFE 20 fuse	$0.40
HRI	complete with SFE 14 fuse	.40
HRH	complete with SFE 9 fuse	.40

BUSS GLASS TUBE FUSES

For Auto, Radio and Instrument Protection

Put up 5 in a slide cover metal box. Users prefer the Buss Box because the lid will not pop open and spill fuses and because information on the box tells what to do when a fuse blows.

What must a good fuse do?—It must open — quickly when necessary to protect, but — it must not open — unless real trouble develops. A fuse that does not open promptly when it should—permits damage to occur. A fuse that opens before it should, causes needless inconvenience and expense.

To Prevent Crooked, Loose or Dirty Caps — Buss caps are locked in true position in manufacture and are held in place so securely that they will not turn or work loose. Each fuse is inspected and wiped clean before being packed.

To Prevent Corrosion—Buss spent years of research and thousands of tests in the Laboratory—to produce a perfectly neutral soldering flux that will not corrode the most delicate fuse link.

To Prevent "Dead" Fuses — Each Buss Fuse is individually tested in an electrical circuit.

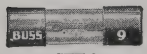
To Prevent Inaccuracy—Buss uses only the purest fuse metal obtainable. Then Buss "re-rolls" this fuse metal to an accuracy of .00015 inch.

NEW STANDARD FUSES **OLD TYPE "AG" FUSES**

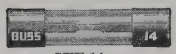
All Cuts Actual Size

SFE 4

SFE 6

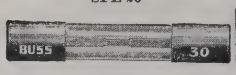


SFE 9



SFE 14

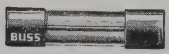
SFE 20



SFE 30

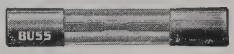
AGA (Old No. 1AG)

AGW (Old No. 7AG)



AGX (Old No. 8AG)

AGC (Old No. 3AG)



AGY (Old No. 9AG)

AGU (Old No. 5AG)

Type	Dimens., Inches	Wt. Lbs. Per 100	Price Each
SFE 4 amp.	¼x 5/8	0.70	$0.05
SFE 6 amp.	¼x ¾	0.71	.05
SFE 9 amp.	¼x ⅞	0.72	.04
SFE 14 amp.	¼x1 1/8	0.77	.04
SFE 20 amp.	¼x1¼	0.83	.035
SFE 30 amp.	¼x1 7/8	1.05	.06
AGA (1AG) 1, 2 or 3 amp.	¼x 5/8	0.70	.07
AGA (1AG) 5, 6, 7½, 10, 15, 20 or 30 amp.	¼x 5/8	0.70	.05
AGC (3AG) 1, 1½, 2 or 3 amp.	¼x1¼	0.83	.07
AGC (3AG) 5, 6, 7½, 25 or 30 amp.	¼x1¼	0.83	.05
AGC (3AG) 10 or 15 amp.	¼x1¼	0.83	.04
AGU (5AG) 10, 20 or 30 amp.	13/32x1½	2.00	.11
AGW (7AG) 6 amp.	¼x ⅞	0.72	.05
AGX (8AG) 20 amp.	¼x1	0.82	.05
AGY (9AG) 50 amp.	¼x1 7/8	1.10	.12

AGC (3AG) fuses 3 amp. and smaller can be used on 250 volt circuits.

G-E COPPER LINK FUSES

FOR UNDERGROUND SYSTEMS

TYPE "88"

Listed by the Underwriters' Laboratories, Inc.

Cat. No.	Ampere Capacity	Cat. No.	Ampere Capacity	Std. Pkg.	Carton
68886	250	68891	500	50	25
68887	300	68892	550	50	25
68888	350	68893	600	50	25
68889	400	68894	650	50	25
68890	450	68895	700	50	25
----------	------	68896	750	50	25

TYPE "93"

Listed by the Underwriters' Laboratories, Inc.

Cat. No.	Ampere Capacity	Cat. No.	Ampere Capacity	Std. Pkg.	Carton
68897	500	68902	1000	25	5
68898	600	68903	1100	25	5
68899	700	68904	1200	25	5
68900	800	68905	1300	25	5
68901	900	68906	1400	25	5
----------	------	68907	1500	25	5

TYPE "MD-B4"

Listed by the Underwriters' Laboratories, Inc.

Cat. No.	Ampere Capacity	Cat. No.	Ampere Capacity	Std. Pkg.	Carton
2086486	500	2086491	1000	25	5
2086487	600	2086492	1100	25	5
2086488	700	2086493	1200	25	5
2086489	800	2086494	1300	25	5
2086490	900	2086495	1400	25	5
----------	------	2086496	1500	25	5

IDEAL TEST-GLO

Tests motors, fuses, spark plugs, electrical and radio circuits from 80 to 250 volts, A.C.

Neon test lamp fully enclosed and protected in transparent rugged plastic housing. Adapted to high voltages by special resistor, self-contained in neat, streamlined jet black tube. A modern safety tool that every electrician, radio repair man, mechanic and maintenance man should have. Convenient chrome plated pencil clip makes the Test-Glo perfectly suited to vest pocket use.

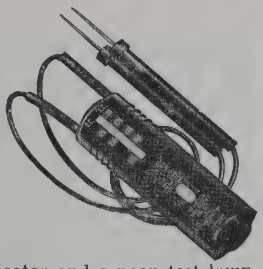
Price, No. **35-001** Test-Glo.....each **$2.20**

IDEAL COMBINATION TEST LIGHT AND FUSE PULLER

Two tools in one. Pocket size. Reinforced bakelite construction with test pins at handle ends. Test light protected. Adjusted to various spans by merely opening or closing the handles. 7-inch overall length. Detachable flexible extension leads, each 18 inches long.

Price, No. **34-005** Test-Lite .....each **$6.00**
Price, No. **34-006** 18-inch Flexible Leads .....each **1.40**

IDEAL VOLTAGE TESTER



Designed for all around electrical testing. Tests continuity of circuits, 110 to 600 volts AC/DC, blown fuses, grounded side of line, grounded side of motor or appliance, excessive leakage to ground, frequency (25 or 60 cycle), DC polarity. It incorporates both a solenoid voltage indicator and a neon test lamp. Provides double protection — either will function in the event the other fails. The test prods and leads are amply insulated for maximum protection. A protecting flange around the end of the handles stops the fingers from slipping off and touching the prods. Sturdily constructed and encased in an attractive plastic case. Has easy-to-read scale calibration from 110 to 600 volts. Overall length 6 inches; leads are 2 feet long. Test prod handles 4 inches long; test prods 2 inches long.

Price, No. **61-001** Voltage Tester, complete with carrying case.....each **$21.80**
No. **61-003** Tester without case.....each **19.80**

IDEAL FUSE PULLERS

Safe-T-Grip

Ideal Safe-T-Grip Fuse Pullers have notched edges which give a sure grip, eliminating any possibility of slipping. Eliminates the danger of pulling and replacing cartridge fuses by hand and the bending of fuse clips through improper removal. Also adapted for adjusting loose cutout clips, handling electrical parts, etc.

Size		Description	Price Each
34-001	Midget	For Small Fuses, ¼ to ½-inch in Diameter	**$0.80**
34-002	Pocket	0 to 200-Amp., 250-Volt, and 1 to 100-Amp., 600-Volt	**2.00**
34-003	Giant	100 to 600-Amp., 250-Volt and 60 to 400-Amp., 600-Volt.....	**5.34**

G-E CORD SETS

EXTENSION CORD SET

Listed by Underwriters' Laboratories, Inc.

Cat. No.	Description	Std Pkg	Carton
GE3534	11 ft. rip cord, triple outlet, ivory-colored molded plug ..	50	5

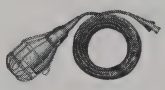
HEATER CORD SET—10,000 CYCLES

6-ft 18/2 10,000 cycle heater cord set for round or flat terminals. All-rubber molded plug cap, heat-resistant Textolite heater plug. Strain relief is built into heater plug.

Cat. No.	Description	Std Pkg	Carton
49X432	6-ft No. 18/2 heater cord. Molded rubber plug—Textolite heater plug	48	12

TROUBLE LIGHTS

Meets standards of Underwriters' Laboratories, Inc.



25-ft long cord sets. Rubber plug at one end and cage and reflector at other end with keyless rubber-molded socket. Cage construction facilitates lamp removal or replacement.

Cat. No.	Description	Std Pkg	Carton
GE2815	25-ft No. 18/2 SJ cord. Molded-on rubber plug. Black.....	10	1

CORD SET WITH GROUNDING PLUG

Meets standards of Underwriters' Laboratories, Inc.

This ribbed finished $\frac{3}{16}$-inch SJ rubber-jacketed cord has a NEMA standard grounding plug molded to one end, stripped conductors on the other end. Heavy-duty tinned solid-brass contacts. Designed to fit GE3588, GE3589 or similar NEMA standard grounding outlets.

Cat. No.	Description	Std. Pkg.	Carton
GE3668	8 ft. cord set with grounding plug	25	5

REPLACEMENT CORD SETS

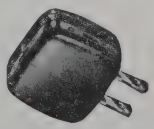
Meets standards of Underwriters' Laboratories, Inc.

GE3529

Cat. No.	Description	Std Pkg	Carton
GE3529	10 ft No. 18/2 SJ cord. Ends Stripped. Molded plug ..	100	20
GE3530	10 ft No. 16/2 SJ cord. Ends stripped. Molded plug ..	100	20

TRIPLE TAP

Listed by the Underwriters' Laboratories, Inc.



A small, compact, brown plastic triple tap. Plug it into any double convenience outlet, and it will take three cord sets without interfering with the use of the second outlet.

Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
GE3532	Brown plastic	15	10	200	25

THE G-E REMOTE-CONTROL WIRING SYSTEM

For Homes, Farms, Factories, Office Buildings, Hospitals Schools, Commercial Buildings

In this new type of wiring system, the 125-volt power lines are connected to all outlets, just as they are in conventional wiring systems. The only difference is in the control circuits, for instead of connecting the switches in the 125-volt lines, the new control switches are connected in a low-voltage, isolated circuit using relays to turn the 125-volt current ON or OFF directly in the outlet boxes.

The control switches use a single-pole, double-throw, momentary-contact, normally open type of mechanism. Therefore, it is possible to connect as many of these switches in parallel as desired to provide economical multipoint control. A dial-type master selector switch, wired in parallel to the separate control switches, permits control of up to nine circuits from a single point.

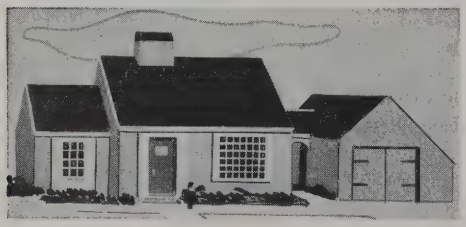
A transformer, similar to that used for supplying current to doorbells or chimes, is used to furnish the 24-volt control current. Because of the low voltage employed, it is permissible to use small flexible inexpensive wire for connecting the relays to the switches and transformer.

The General Electric remote-control wiring system can be installed for new construction or remodeling in residential, commercial, and industrial buildings. This system provides many conveniences at low cost to the property owner. It offers distinct advantages to the architect, electrical engineer or contractor. It requires no new tools or techniques . . . it is easy to learn and simple to install. Of interest, especially at times of material shortages, is the saving of copper and steel effected by the use of the thermoplastic-insulated small-diameter control wire which saves up to 20% of copper and 34% of steel for the average 6-room house.

For frame construction, relays can be mounted directly in the outlet box to be controlled. However, many electrical contractors prefer to mount three or more relays in a standard 4$\frac{11}{16}$ in. square outlet box or small gang box to take care of the relay requirements for a small area. Relays can also be gang mounted in centrally located pull boxes for large residences or for commercial and industrial application. False ceilings provide adequate raceways for control wire and gang mounting of relays.

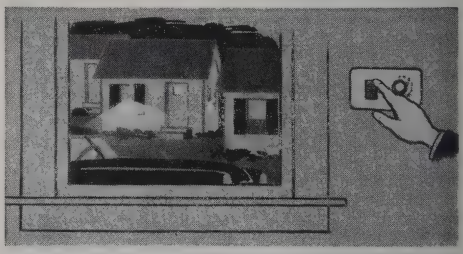
Typical Uses for G-E Remote-Control Wiring

In the Home



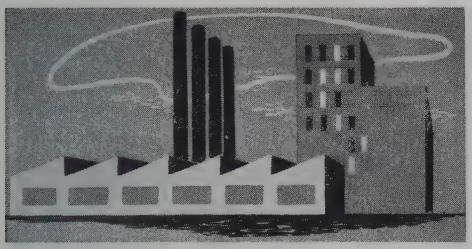
The General Electric remote-control wiring is the newest sales feature a modern home can have. Progressive builders everywhere realize that in today's competitive market, extra features are needed to interest the prospective home owner. With G-E remote-control wiring practically any desired switch control can be accomplished by simple, inexpensive control circuits. It saves many steps, adds conveniences and comforts never before considered practical. It creates a demand for comfortable living . . . creates a preference too for homes wired with G-E remote-control wiring.

Commercial Uses



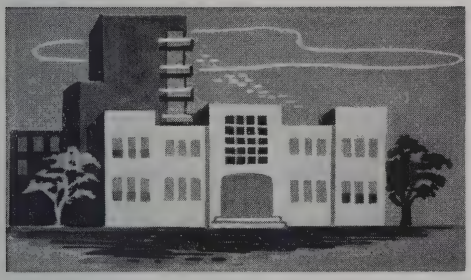
This remote-control system is particularly useful in commercial buildings where it is necessary or advantageous to place control of lighting and power at one or more central locations. This new type of wiring makes a multipoint-control system practical. It saves the attendant's time by eliminating periodic rounds for checking lights.

THE G-E REMOTE-CONTROL WIRING SYSTEMS



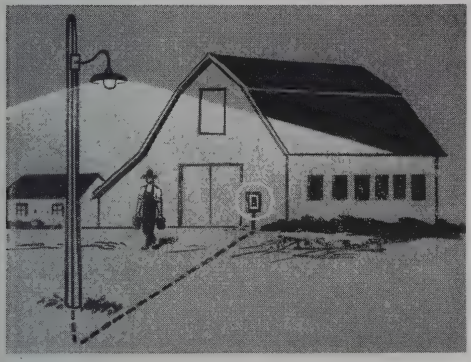
In Industrial Buildings

The ease with which G-E remote-control wiring can be relocated in accordance with the demands of new production schedules and the feature of the master control of important circuits, make this new type wiring system desirable for factory and other industrial applications.



For Institutions

A master control station is the particular feature required by schools, hospitals, and other public buildings where control of lighting for certain important areas must be under strict supervision. Multipoint control is also desirable to permit control of light or power according to the requirements of individuals, while still under the master control of supervisors.



On the Farm

The General Electric remote-control wiring system is a "natural" for the farm. It saves many steps by controlling lights and power outlets from remote points. In lieu of a complete remote-control system, the G-E utility unit can be used for the control of yard lights from every yard building, or the control of any lighting or power circuit from isolated points. Farmers appreciate the time and energy saving features of this new type of wiring system.

For Office Buildings

Where control requirements are extensive, as in all modern office buildings, the G-E remote-control wiring system is especially recommended because of the ease with which this can be accomplished. Switches and low-voltage wiring can be preassembled in steel or wooden partitions. Furthermore, there is no need to remove the control wiring when partitions are rearranged in accordance with new office requirements. Simply disconnect the low-voltage wiring at partition joints and reconnect at the new location. Where partition changes are frequent, remote-control wires

can be installed at likely partition locations for quick, easy change at any future time. Flexibility, plus economical multipoint control, makes this system ideally suited to office buildings. But there are more advantages than flexibility and the multipoint switch control to be obtained from use of General Electric remote-control wiring.

GENERAL ELECTRIC REMOTE-CONTROL WIRING MAKES POSSIBLE THE USE OF HIGHER VOLTAGES IN OFFICE BUILDING LIGHTING

Modern Trend to Fluorescent Lighting

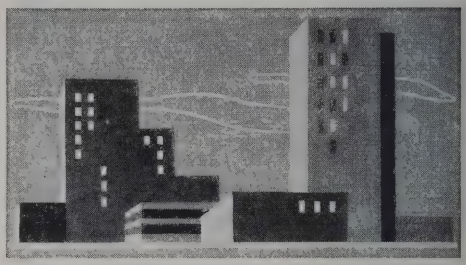
The modern trend to higher levels of illumination with fluorescent lighting has made the distribution of power for lighting in office structures as important as the distribution of energy in manufacturing plants. Office building lighting has largely been supplied from 230/115-volt, 3-wire, grounded neutral, single-phase feeder circuits or, where the utility had a network system, from a 208Y/120-volt, 3-phase, 4-wire supply. Although the basic economies of higher voltage have been recognized by engineers, its use has been hindered by lack of appropriate light sources, by considerations of safety, and by the fact that power at higher voltage was not available.

Fluorescent Lighting In Large Factory Areas

Because fluorescent lamps require ballasts between the lamps and their power supply, they can be operated by electric power supplied from a distribution system at other than the traditional 115/120 volts by winding the ballast to suit the desired primary voltage. In recent years, large areas of factory lighting have been connected directly to the same 480Y/277 volt, 3 phase power system used for motors and other industrial loads.

Limitations On Use of High Voltage For Fluorescent Lighting In Office Buildings

Modern office buildings, however, with their large power loads of elevators, fire pumps, air-conditioning and sanitary systems, have heretofore been unable to make use of the economies of this higher voltage for fluorescent lighting because no practical means of switch control was available to handle the individual office circuits at higher voltage. Maximum rating of conventional flush-mounted wall switches is 250 volts. When these switches are used to control the inductive load of fluorescent ballasts, this rating must be reduced by 50 per cent. These restrictions are in the Underwriters' Laboratories Standards and in the National Electrical Code and they are sound engineering practice.



General Electric Remote-Control Wiring Makes Possible High Voltage Fluorescent Lighting In Office Buildings

The General Electric Remote-Control Wiring System, with relays rated at 277 volts, makes possible the use of 480Y/277-volt distribution for lighting in office buildings. The relay system provides a means of safe switching for individual office circuits which is also economical and practical.

Important Savings Are Made By Using High Voltage (480Y/277-volt) Lighting Systems

In a typical five-story 180,000 sq. ft. office building, the use of the higher voltage system shows a saving of $30 per kva of installed equipment and wiring and a saving of four pounds of copper per kva. This building is supplied by primary power at 13.8 kv which is distributed at 480Y/277 volt, 3-phase 4-wire, from a double-end unit substation with a capacity of 750 kva at each end. Approximately 1 volt-ampere per square foot for convenience outlets is provided by 15 kva 480Y/277-volt transformers.

General Electric Remote-Control Wiring Provides Adequate Safety in 480Y/277-Volt Lighting Systems

Until the introduction of the General Electric Remote-Control Wiring System, the electrical industry had not encouraged the use of higher voltages where the general public was able to operate the switches. General Electric Remote-Control Wiring, however, takes advantage of two factors which assure the safe use of 480Y/277 volts in such buildings.

1. General Electric Remote-Control Wiring isolates the control switches and the building's occupants do not normally encounter any other circuits than the 24-volt remote-control circuit and the 120-volt convenience outlet circuit.

2. Fluorescent Lampholders, as listed by the Underwriters' Laboratories Inc., and approved by electrical inspectors, are dead front when the lamps are removed as contrasted with the exposed screw shell and center contact of an empty screw socket.

These two safety measures provide adequate safety for the use of 480Y/277-volt systems.

G-E REMOTE CONTROL WIRING SYSTEM

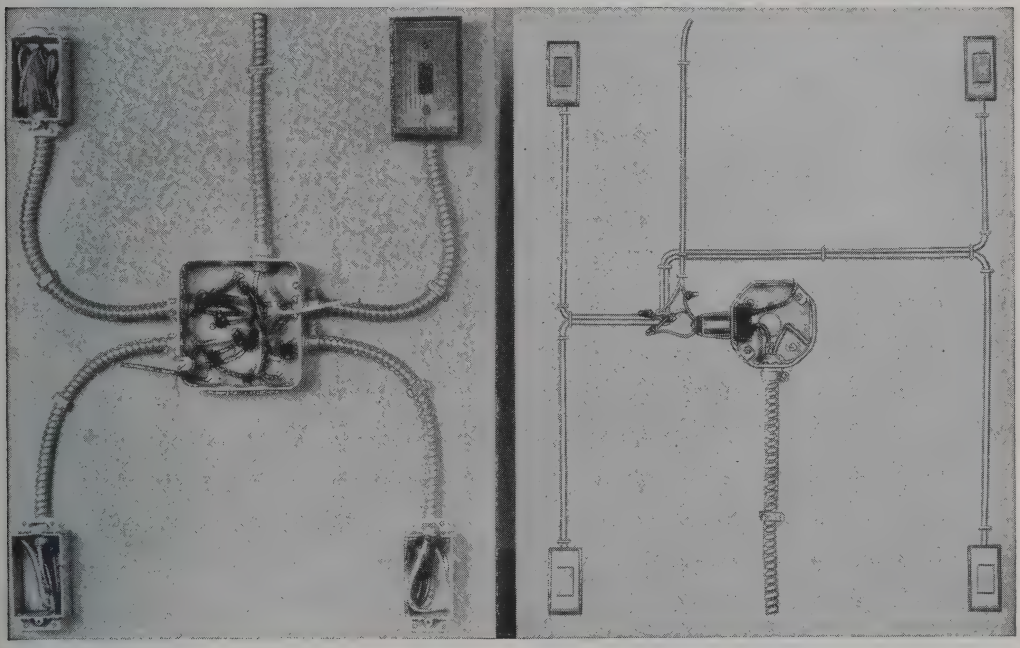
The General Electric remote-control wiring system provides a simple, flexible means of controlling lights, convenience outlets, and small appliances in home or commercial building, factory or farm. With this system, any lighting or other 125-volt outlet can be controlled from one or an unlimited number of switching points.

The remote-control wiring system differs from conventional wiring systems only as far as switches and switch-wiring are concerned. It does not change the conventional methods of installing the 125-volt wiring to outlets or calculating of required loads, circuits, etc. The function of the remote-control wiring system is to permit the use of low-voltage (24 volts) throughout all control circuits, using small, flexible two- or three-conductor thermoplastic-insulated wires. A small relay is mounted in the lighting, convenience outlet or panel box and this is controlled by any number of small low-voltage switches installed in convenient locations. The low-voltage power is supplied by a transformer, similar to a standard bell-ringing transformer.

The remote-control wiring system can be used for new wiring or the rewiring of existing buildings. It opens up unlimited applications of switch control because of the ease and simplicity of installation and because of its convenient and positive control of outlets. Such flexibility of control is not practical from a cost basis with conventional wiring.

Features

1. Added safety through use of low voltage in all parts subject to manual control.
2. Economical control of any outlet from any number of points by simply installing the required number of switches in parallel.
3. Switch locations easily changed at any time without changing the 125-volt wiring.
4. Master control permits the switching of nine circuits or several selected circuits from one central point.
5. Outlets in different branch circuits can be controlled simultaneously by a single remote-control switch.

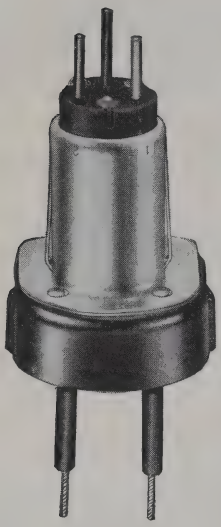


This illustration shows the conventional method (left) and the remote-control wiring method (right) of controlling one outlet from four points. Note the heavy- three- and four-conductor cable that is necessary for the conventonal wiring system. Note, too, the amount of space that this cable takes in the outlet and switch boxes. The same four-point control (right) is obtained with light-weight wire, the smaller outlet box, and with less work when the remote-control system is used.

G-E REMOTE-CONTROL WIRING SYSTEM

Remote-Control Wiring Components

The Relay



RR2 Relay

The remote-control relay operates on 24 V, and is approved by the Underwriters' Laboratories, Inc., for ratings of ⅓ hp, 15-amp., 125 volts a-c and 5-amp., 277 volts a-c. This relay is further approved for use with tungsten filament and fluorescent lamp loads. The actual switching of the 125-volt circuit is accomplished by this relay which is installed in the outlet box of the lighting fixture to be controlled. This relay is small enough to be mounted in most standard outlet or switch boxes having ½-inch knockouts. The barrel of the relay is inserted through a ½-inch KO from the inside of the box. Thus the 125-volt end remains within the box and the low-voltage end is outside. The outlet or switch box acts as the necessary barrier between the two systems.

The relay is actually a split-coil solenoid-operated switch (see Fig. 1). Energizing the "ON" coil from the control switch closes the 125-volt switch contacts on the relay, and energizing the "OFF" coil opens the 125-volt contacts. Pigtail leads at the 125-volt end and binding screws at the low-voltage end facilitate installation.

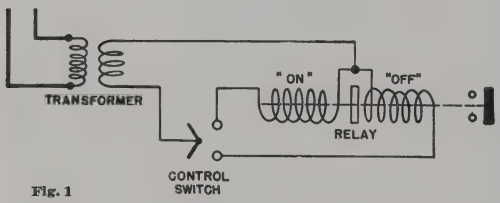
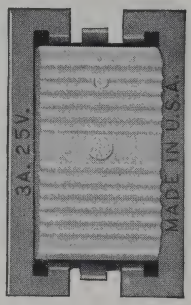


Fig. 1

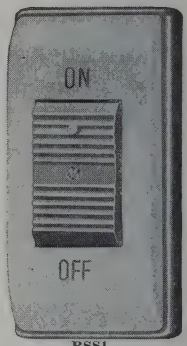
The Remote-control Switches

The remote-control switches are available in two types — one for surface mounting and one for flush mounting. Both are rated at 3 amp., 25 volts a-c. The surface-mounted switch needs no plate and is attractively finished in ivory and buff color. The flush-mounted switch is buff colored and the wall plate is finished in ivory color to harmonize with the switch. Three remote-control switches can be installed in the space required for one conventional tumbler switch.

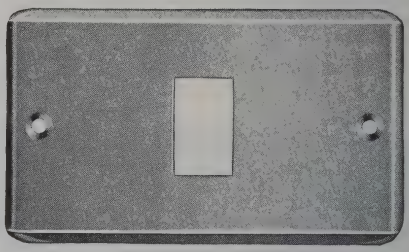
The surface-mounted switch is suitable for use in old work or on certain types of wallboard construction or on thin partitions which do not provide sufficient depth for a standard switch box.



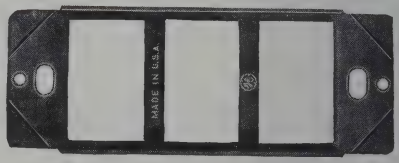
RFS1
Remote-control switch for flush mounting



RSS1
Remote-control switch for surface mounting

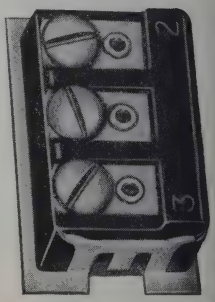


RP1 Plate for RFS1 Switch



Strap (furnished with each wall plate)

The flush mounted switch can be used in one-, two-, or three-gang combinations, and is easily installed in any conventional switch box. However, a box is not required by code and a cover similar to SP52C14 may be substituted if desired. A mounting strap, suitable for one, two, or three switches, is supplied with each wall plate.

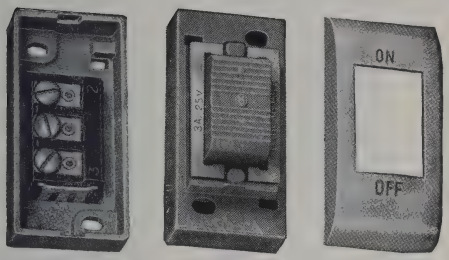


RFS1 Rear view of flush-mounted switch

Both types of switches operate on exactly the same principle. They are a single pole, double throw, momentary contact, normally open push-button type. By depressing one end of the switch button, marked with a raised dot, the "ON" coil of the remote-control relay is actuated and the circuit is turned on. When the "OFF" end of the switch button is touched, the other coil in the relay operates, and the circuit is turned "OFF."

G-E REMOTE-CONTROL WIRING SYSTEM

Remote-Control Wiring System Components

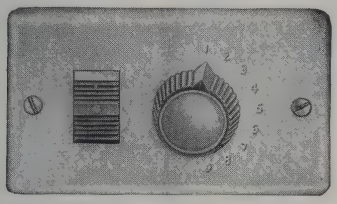


RSS1
(1) View of terminals on back of surface-mounted switch.
(2) Front view of surface mounted switch with cover removed.
(3) Cover of surface mounted switch.

Both switches are easy to install and have binding screws which are marked to identify the circuits.

The flush mounted switch, RFS1, is held in position in the switch box by means of the wall plate strap. The switch snaps into position easily, and when the installation is complete, the wall plate is screwed into place.

Master Selector Switch



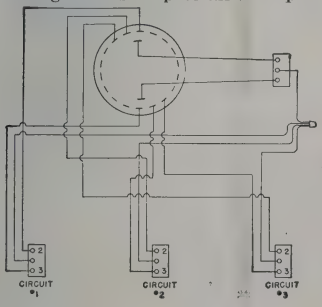
RMS1 Master Selector Switch

The Master Selector Switch is designed to control up to nine different circuits in a remote-control wiring system from a single location. Furnished complete with plate for mounting, the selector dial and switch are buff colored. The wall plate is finished in ivory to harmonize.

This switch is a combination of an ON-OFF control switch with a 9-circuit selector switch. Fits standard mounting for flush devices. Depth is 1 inch. Rated at 3 amp., 25 volts.

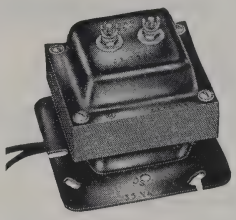
For controlling individual circuits, turn selector switch to circuit desired, then press control switch for ON or OFF.

For controlling all circuits, press control switch for ON or OFF while turning selector switch through full sweep of all nine positions.



Typical Wiring Diagram of Remote Control Master Selector Switch

The Transformer



RT1 Transformer

The transformer furnishes the low-voltage power (24 volts) necessary to operate the remote-control relay. This transformer is designed especially for use with G-E remote-control wiring system and has a rated power of 35 volt-amperes at 24 volts. It is approved by the Underwriters' Laboratories, Inc., for use in Class II remote control and signal circuits as outlined in article 725 of the 1947 National Electrical Code. Only one transformer is required in the average residence. In larger industrial or other comparable installations, additional transformers may be needed.

The transformer is mounted on a universal-type box cover having screw slots and holes to fit standard 3¼-, 3½-, or 4-inch octagon outlet boxes, or standard 4-inch square outlet boxes. The 10-inch pigtail leads for connection to the 125-volt, 60-cycle power supply come out through the mounting box cover. This permits direct connection to the power supply in the outlet box, which also acts as support for the transformer. The low-voltage locking-type screw terminals are mounted on the top of the transformer, so that additions or alterations of the control circuits are easily made at any time. The NEC requires that the transformer be connected to not over a 15-amp. branch circuit.

Utility Unit

RU1 Remote Control Utility Unit

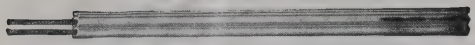
The housing is made of die-cast aluminum with a gray finish. The snap-on weather-proof cover is made of stamped aluminum. There are two compartments inside this unit, the upper compartment is for the low voltage wiring and the lower is for the 125 volt connections as required by NEC. Entrance is gained to the upper compartment through a tube at the left rear side of the unit. The lower compartment has two threaded openings for ½-inch pipe or insulating bushings for use with open wiring. There is a screened drain in the bottom for condensation. Underwriters' Laboratories, Inc. approved.

The relay has a rated capacity of ⅛ hp, 15 amp., 125 volts a-c, or 5 amp., 277 volts a-c. Transformer primary must be connected to 125-volt a-c circuit.

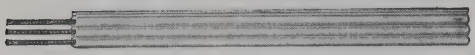
The unit can be mounted with two lag or machine screws, 6¾ inches apart. Keyhole slots are provided for easy mounting. Circuit diagram is provided with each unit, showing both low-voltage and line-voltage connections.

G-E REMOTE-CONTROL WIRING SYSTEM

The Conductors



SI-53083
No. 18/2 Flamenol remote-control wire



SI-53083
No. 18/3 Flamenol remote-control wire

These thermoplastic-insulated wires are available with two or three conductors and are rated for 30-volt service. The conductors are stranded copper, covered with 1/32-inch thermoplastic insulation. Both wires are identified by a double rib on one of the outer conductors for easy circuit identification. These wires are thin and flat, and light in weight. They can be installed in new construction without any raceway protection. In old construction, they can be snaked into the walls in the usual manner or stapled to the surface of the wallboard. In plaster walls they can be laid into a shallow groove and plastered over.

G-E REMOTE-CONTROL SYSTEM AND THE NATIONAL ELECTRICAL CODE

Because the remote-control wiring system uses low voltage, it is not subjected to the same code restrictions as the conventional wiring system. Installation of a low-voltage system is greatly simplified because of its inherent safety factors. The low-voltage system can be short-circuited at any point without danger of excessive heat or fire. The restrictions imposed upon low-voltage systems by the National Electrical Code are as follows:

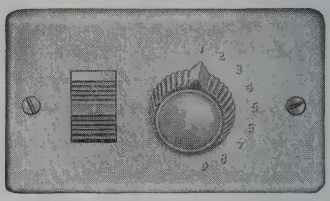
1. Remote control and signals systems operating between 15 and 30 volts shall have overcurrent protection limited to 3 amperes. If batteries, transformers, or other devices having inherent current-limiting characteristics and approved for the purpose are used for the circuit supply, the over-current protection may be omitted. Transformers shall be restricted to their rated output not to exceed 100 volt-amperes. They shall be marked where plainly visible to show the voltage to be applied to the circuit and whether or not they are of the current-limiting type.

2. The line (125 V.) side of the transformer must be installed in accordance with chapter 3 of the NEC.

3. The load side of transformer must be installed as follows: (a) Open conductors must be at least two inches from any light or power circuit unless protected by a continuous nonconductor, such as flexible tubing or porcelain tubing in addition to insulation on wire. (b) In raceways or boxes, remote control circuits shall not be mixed with any other power source unless separated by a partition. (c) In vertical runs the conductors must be separated from light and power circuits by at least two inches or the conductors of either systems must be encased in noncombustible tubing. (d) If control circuits extend beyond one building, and are so run as to be subject to accidental contact with light or power circuits operating at a potential exceeding 300 volts, they must also comply with Section 8011, 8021, and 8022 of Article 800 of the Code.

G-E REMOTE-CONTROL WIRING SYSTEM

REMOTE-CONTROL MASTER SELECTOR SWITCH

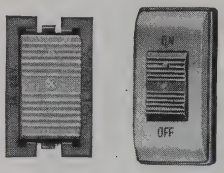


RMS1

Combination of an ON-OFF control switch with a circuit selector switch. Fits standard mounting for flush devices. Depth, 1 inch. For controlling up to nine circuits simultaneously or individually. Complete with matching wall plate.

Cat. No.	Description	Rating Amps.	Rating Volts	Std Pkg	Carton
RMS1	Master Selection Switch	3	25	5	1

REMOTE-CONTROL SWITCHES



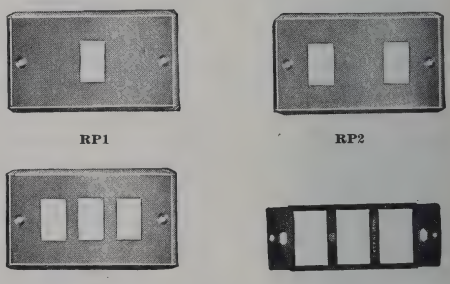
RFS1 RSS1

Compact, attractively styled plastic switches for remote-control wiring system. Normally-open, single-pole, double-throw momentary contact type.

Can be connected in parallel.

Cat. No.	Description	Rating Amp.	Rating Volts	Std Pkg	Carton
RFS1	Flush-mounted switch, buff plastic	3	25	20	10
RSS1	Surface-mounted switch, ivory and buff plastic	3	25	20	10

WALL PLATES



RP1 RP2 RP3 STRAP

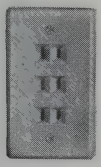
Ivory-colored wall plates to fit RFS1 remote-control switch. Furnished complete with mounting strap and screws. Available for one, two, or three switches. Polished chrome finish available.

Cat. No.	Description	Std Pkg	Carton
RP1	1-gang plate for single remote control switch (RP11 - chrome finish)	20	10
RP2	1-gang plate for two remote-control switches (RP12-chrome finish)	20	10
RP3	1-gang plate for three remote-control switches (RP13-chrome finish)	20	10

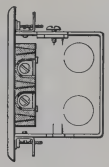
G-E REMOTE-CONTROL WIRING SYSTEM

TRIPLE OUTLETS WITH MATCHING PLATES

For Remote Control



RO-1
Triple Convenience Outlet with Plate



Cross-section view of outlet on sectional switch box. Note the available wire space

Plates match remote-control switch plates. Modern design makes cleaning of plate easy. Triple convenience outlets — one more than usual. Modern parallel polarized slots. Slot-finding face — plugs slide into place. Double wiping contacts for long life and low resistance. Screw slots for leveling plate and outlet.

Separate feed for RO-2 permits control of one or two outlets while remaining outlet or outlets are live. Only one piece — nothing to lose.

Rated for 15 amp., 125 volts, 10 amp., 250 volts. Listed by Underwriters' Laboratories, Inc. Single-piece construction takes less space — more room for wires.

15 Amp., 125 Volts—10 Amp., 250 Volts

Cat. No.	Description	Std Pkg	Carton
RO-1	Triple outlet with plate common feed, common ground ivory plastic	100	10
RO-2	Triple outlet with plate separate feed, common ground, ivory plastic	50	10

REMOTE-CONTROL RELAY

RR2

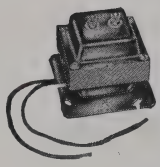
This relay is used in the G-E remote-control wiring system, and has a split coil design. One coil closes the 125-volt circuit and the other opens it. Operates on 24 volts. Has two 7-inch No. 14 Awg Flamenol leads for the 125-volt connections and Flamenol leads for the 24-volt connections.

Rating: ⅓ hp, 15 amps., 125 volts a-c and 5 amp., 277 volts a-c, suitable for use with tungsten filament and fluorescent lamp loads.

Cat. No.	Description	Rating	Std Pkg	Carton
RR2	Relay	⅓ hp, 15 amp, 125 volts a-c, suitable for use with tungsten filament and fluorescent lamp loads.	10	5
RR1	Relay	same as RR2 except with binding screw terminals for 24-volt connections	10	5

G-E REMOTE-CONTROL WIRING SYSTEM

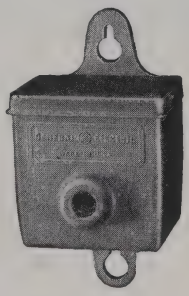
REMOTE-CONTROL TRANSFORMER



Designed for use with the G-E remote control wiring system and for Class II signal systems. Mounted on universal-type box cover having screw slots and holes to fit standard 3¼-, 3½-, or 4-inch octagon outlet boxes or standard 4-inch square boxes. 10-inch pigtail leads for 125-volt connection. Locking-type screw terminals for low-voltage connections.

Cat. No.	Rating	Std Pkg	Carton
RT1	35 volt-amperes, secondary — 24 volts (open circuit) primary— 125 volts, 60 cycles	5	1

REMOTE-CONTROL UTILITY UNIT



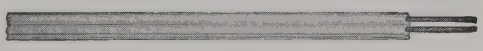
Combination relay-transformer in a weatherproof aluminum die-cast case. Recommended for controlling yard lights mounted on utility pole on farms. Also for use in controlling attic ventilators, hen house lighting, heating, etc.

The relay has a rated capacity of ⅓ hp, 15 amp., 125 volts a-c, or 5 amp., 277 volts a-c. Transformer primary must be connected to 125-volt a-c circuit.

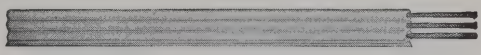
Cat. No.	Description	Amperes 125V	Amperes 250V	Std Pkg	Carton
RU1	Utility unit	15	5	1	1

FLAMENOL REMOTE-CONTROL WIRE S1-53083

30 Volts Maximum



No. 20 Awg. 2-Conductor



No. 20 Awg. 3-Conductor

Two- and three-conductor thermoplastic-insulated wires for low-voltage remote-control wiring systems. Stranded copper conductors with 1/64-inch thermoplastic insulation. On both the 2- and 3-conductor wire there is a double rib on one of the outer conductors for easy circuit identification.

Size	Insulation in Inches	Over-all Diam. in Inches	Wt. in lb. Per M Feet	Packing Spools Ft.
20/2	1/64	.08 x .17	16	500
20/3	1/64	.08 x .26	24	500

G-E REMOTE-CONTROL WIRING SYSTEM

FLAMENOL OUTDOOR REMOTE-CONTROL WIRE

SI-53086—300 Volts

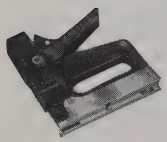
No. 18 Awg/3 Conductor

This three-conductor Neoprene-insulated Remote-control Wire is available for outdoor use either overhead or for direct burial. If used overhead, on spans exceeding 15 feet, G.E. recommends it be attached to a Size No. 6 or 8 galvanized steel messenger. A suggested method of attaching the Remote-control Wire to the messenger is by twisting it around the messenger or by tying it firmly to the messenger at intervals of 1 or 2 feet, using No. 33 Scotch tape. The messenger and means of attachment are to be supplied by the customer. Polarity identification is provided by rib on side of cord.

Size	Insulation in Inches	Over-All Diam in Inches	Wt in Lb per M Ft	Packing Spools F't
18/3	3/64	.16 x .41	54	500

STAPLING GUN

For Remote-Control Wiring



Controlled mechanism drives staples to predetermined depth — no damage to insulation.

Cat. No.	Description	Std Pkg	Carton
RA-1	Stapling Gun	1	1

Staples for the above gun can be obtained from any Bostitch distributor. Bostitch Cat. No. STCR-5019-⅜" staples.

WIRE-GUIDING REEL SUPPORT

RA-2

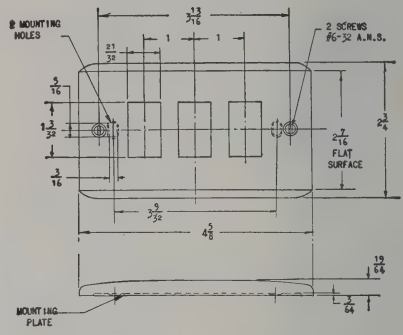
With this handy wire-guiding reel support there is no need for unworkmanlike installations. Wire pays-off smoothly with no kinks or twists — makes stapling an easy task. Reel cannot run across floor — stays where wanted. Made of heavy zinc-plated wire — resists rust and corrosion. Easily mounted on board with two wood screws.

RA-2—Standard package, 1. Carton, 1.

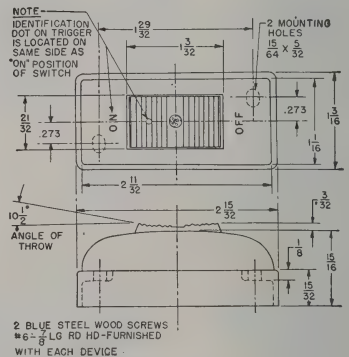
Reel and boards as shown in illustration are not furnished with this device.

G-E REMOTE-CONTROL WIRING SYSTEM

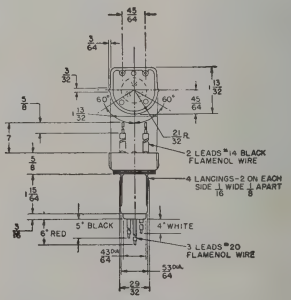
DIMENSIONS—REMOTE-CONTROL COMPONENTS



RP1 Single—center slot only
RP2 Double—center slot omitted
RP3 Triple—as shown


NOTE-IDENTIFICATION DOT ON TRIGGER IS LOCATED ON SAME SIDE AS "ON" POSITION OF SWITCH
2 MOUNTING HOLES
ON
OFF
.273
.273
ANGLE OF THROW
2 BLUE STEEL WOOD SCREWS #6-7/8 LG RD HD-FURNISHED WITH EACH DEVICE

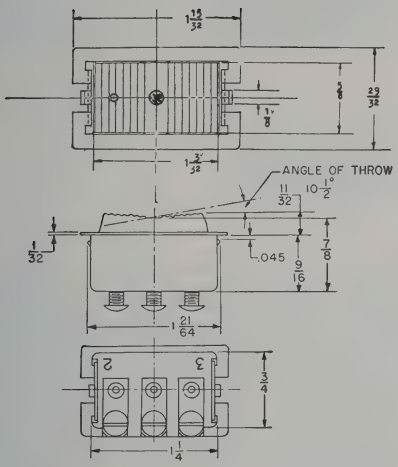
Outline for surface mounted Remote Control switch 3A-25V
RSS1



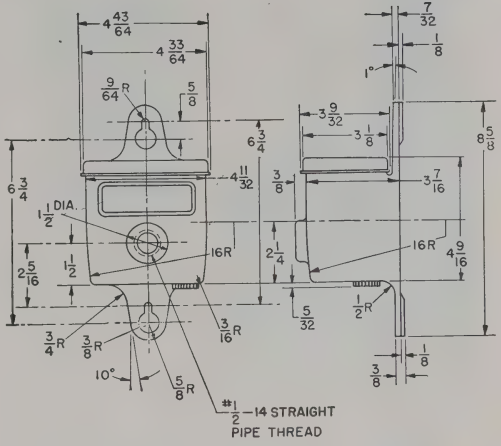
Outline for Remote Control Relay
RR2

G-E REMOTE-CONTROL WIRING SYSTEM

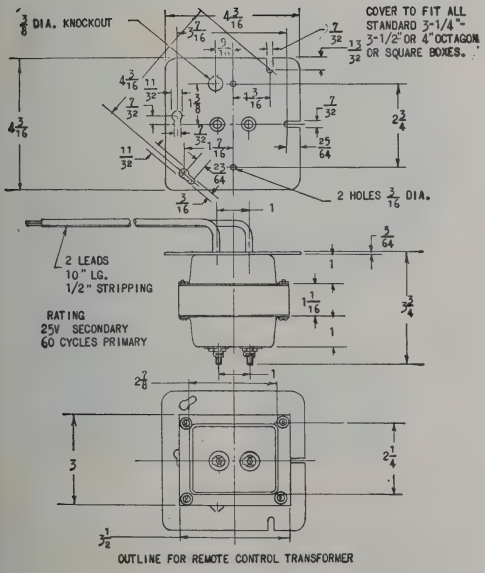
DIMENSIONS—REMOTE-CONTROL COMPONENTS



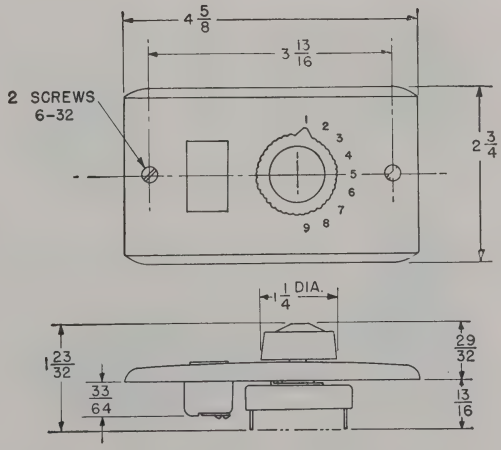
Outline for Remote Control wall switch **RFS1**



Outline of Utility Unit **RU1**


3/8 DIA. KNOCKOUT
COVER TO FIT ALL STANDARD 3-1/4"- 3-1/2" OR 4" OCTAGON OR SQUARE BOXES.
2 HOLES 3/16 DIA.
2 LEADS 10" LG. 1/2" STRIPPING
RATING 25V SECONDARY 60 CYCLES PRIMARY
OUTLINE FOR REMOTE CONTROL TRANSFORMER

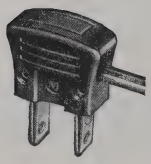
RT1



Outline drawing of Remote Control Master Switch **RMS1**

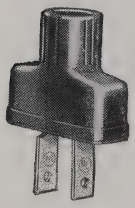
MONOWATT HOUSEWARE ELECTRICS
Attachment Plugs and Plug Bodies

PLASTIC ATTACHMENT PLUGS



1110-1 Quick Clamp Plug. Brown. Revolutionary plug makes repairing electric cords easy for everyone. Wired in seconds. No terminal screws. No wire stripping. Simple. Safe. 10A-250V, 15A-125V.
1110-2 Same. Ivory.

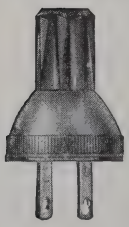
1111-1 Quick Clamp Plugs. Brown. 3 on a display card.
1111-2 Same. Ivory.



1115-1 Plug, Flat. Brown. Same as 1125 but without grip extension. (Not illustrated.)
1115-2 Same. Ivory.
1125-1 Grip Plug, Flat. Brown. 10A-250V, 15A-125V.
1125-2 Same. Ivory.

1120-1 Grip Plug, Round. Brown. Large fluted grip extension for easy removal from wall outlet. 10A-250V, 15A-125V.
1120-2 Same. Ivory.

RUBBER ATTACHMENT PLUGS



1131-3 Grip Plug, Round. Black. For attachment to cords, which receive rough usage. 10A-250V, 15A-125V.
1134-3 Jumbo Grip Plug, Round. Black. For "SJ" Heavy Duty cord. 10A-250V, 15A-125V. (Not illustrated.)

PLASTIC PLUG BODIES

1141-1 Plug Body. Brown. Ingenious plastic construction eliminates washer and prevents collapse of the contact point when plug body is screwed tightly into a socket, 660W, 250V.
1141-2 Same. Ivory.

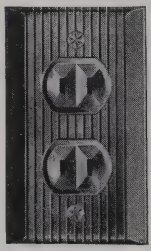
MONOWATT HOUSEWARE ELECTRICS
Wall Outlets

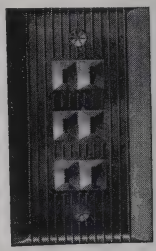
FLUSH OUTLETS

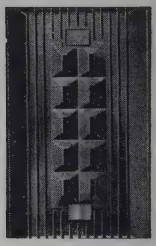
1201-1 Double. Brown. 10A-250V, 15A-125V.
1201-2 Same. Ivory.
1202-1 Double with Plaster Ears. Brown. 10A-250V, 15A-125V.
1202-2 Same. Ivory.

1208-1 Double with T-Slots. Brown. 10A-250V, 15A-125V.
1208-2 Same. Ivory.
1209-1 Double with T-Slots and Plaster Ears. Brown. 10A-250V, 15A-125V.
1209-2 Same. Ivory.

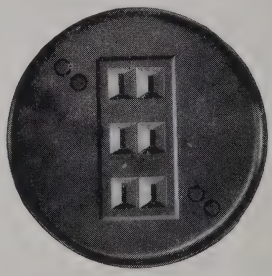
COMBINATION FLUSH OUTLETS AND PLATES


1221-1


1223-1


1225-1

1221-1 Double with Break-off Feature Wall Plate. Brown. 10A-250V, 15A-125V. **1221-2** Same. Ivory.
1223-1 Triple with Double Contacts and Break-off Feature Wall Plate. Brown. Specification grade. 10A-250V, 15A-125V. **1223-2** Same. Ivory.
1225-1 Quintet with Break-off Feature Wall Plate. Brown. 10A-250V, 15A-125 V. **1225-2** Same. Ivory.



1231-1 Double on 3¼-4 inch Cover. Brown. 10A-250V, 15A-125V. (Not illustrated.)
1233-1 Triple with Double Contacts. Brown. 10A-250V, 15A-125V.

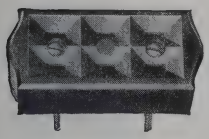
SURFACE OUTLETS

1245-1

1265-1

1245-1 Angular Triple. Brown. Openings for through wiring. Screws to wall or baseboard.
1245-2 Same. Ivory.
1265-1 Single. Brown. **1265-2** Same. Ivory.

MONOWATT HOUSEWARE ELECTRICS
Wall Outlets



SURFACE OUTLETS

1269-1 Triple, with two mounting screws. Brown.
1269-2 Same, Ivory.

Wall and Other Switches

FLUSH TOGGLE SWITCHES

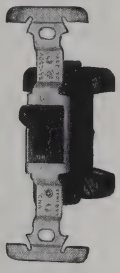
1301-1

1302-1

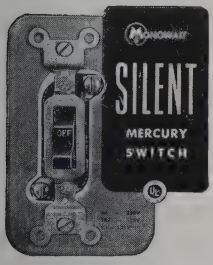
1301-1 Single Pole. Brown. 5A-250V, 10A-125V.
1301-2 Same. Ivory.
1303-1 Three way. Brown. 5A-250V, 10A-125V.
1303-2 Same. Ivory.
1302-1 S.P. with Plaster Ears. Brown. 5A-250V, 10A-125V.
1302-2 Same. Ivory.
1304-1 3-Way with Plaster Ears. Brown. 5A-250V, 10A-125V.
1304-2 Same. Ivory.

1308-1 S.P. "T" Rated. Brown. 5A-250V, 10A-125V.
1308-2 Same. Ivory.
1309-1 3-Way "T" Rated. Brown. 5A-250V, 10A-125V.
1309-2 Same. Ivory.
1314-1 S.P. "T" Rated with Plaster Ears. Brown. 5A-250V, 10A-125V.
1314-2 Same. Ivory.
1315-1 3-Way "T" Rated with Plaster Ears. Brown. 5A-250V, 10A-125V.
1315-2 Same. Ivory.

1308-1


1314-1

SILENT MERCURY SWITCHES



They're Quiet—No Noisy Click. Packed on eye-catching, 3-color display cards. Monowatt Mercury Switches have extra sell; help you cash in on the growing demand for silent switches.

1316-1 S.P. "T" Rated. Brown. 5A-250V, 10A-125V. 5A-125V.T.
1316-2 Same. Ivory.

1317-1 3-Way "T" Rated. Brown. 5A-250V, 10A-125V, 5A-125V.T. (Not illustrated.)
1317-2 Same. Ivory.

MONOWATT HOUSEWARE ELECTRICS
Wall and Other Switches

COMBINATION FLUSH TOGGLE SWITCHES AND PLATE

1321-1

1341-1

1321-1 Single Pole "T" Rated with Break-off Feature Plate. Brown. Specification grade. One piece construction cuts installation time in half. 5A-250V, 10A-125V.
1321-2 Same. Ivory.

1323-1 Three Way "T" Rated with Break-off Feature Plate. Brown. 5A-250V, 10A-125V.
1323-2 Same. Ivory.

1341-1 Single Pole on 3¼-4 inch Cover. Brown. 5A-250V, 10A-125V.

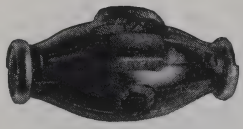
1342-1 Single Pole "T" Rated on 3¼-4 inch Cover. Brown. 5A-250V, 10A-125V.

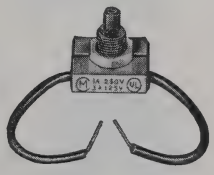
1343-1 Three Way on 3¼-4 inch Cover. Brown. 5A-250V, 10A-125V.

1344-1 Three Way "T" Rated on 3¼-4 inch Cover. Brown. 5A-250V, 10A-125V.

SURFACE TOGGLE SWITCHES

1331-1 Single Pole. Brown. Plastic construction lighter and stronger than porcelain. Side or back wired. Side wiring done by breaking through convenient knockouts. 5A-250V, 10A-125V.
1332-1 3-Way. Brown. 5A-250V, 10A-125V.





1351-1 Feed Through Switch. Brown. Small, compact. Each mounted on a display card which gives instructions and suggested uses. 5A-250 V, 10A-125V.
1351-2 Same. Ivory.

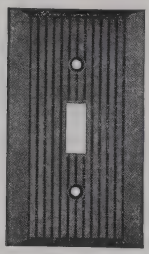
1362-1 Push Button Canopy Switch with threaded neck, locknut, and 6" leads of No. 18 fixure wire. Brown. 1A-250V, 3A-125V.

MONOWATT HOUSEWARE ELECTRICS

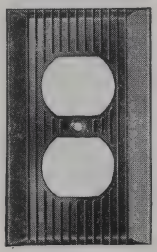
Wall Plates

PLASTIC BREAK-OFF WALL PLATES

Made of heat-resistant, thermosetting compound. Each plate attached to a display card for greater see-ability. Screws held in place with fiber washers so they can't get lost.



1401-1



1403-1

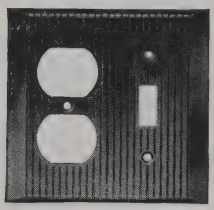
1401-1 Toggle Switch. Brown.
1401-2 Same. Ivory.

1403-1 Double Outlet. Brown.
1403-2 Same. Ivory.

Not Illustrated

1400-1 Push Button, Brown.
1402-1 Single. Brown.
1404-1 Telephone Jack Outlet. Brown.

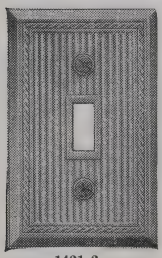
1400-2 Same. Ivory.
1402-2 Same. Ivory.
1404-2 Same. Ivory.



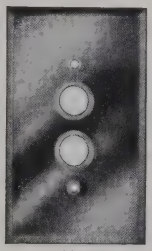
DOUBLE GANG

1405-1 Toggle Switch. Brown. (Not illustrated.)
1405-2 Same. Ivory.

1406-1 Combination Double Outlet and Toggle Switch. Brown.
1406-2 Same. Ivory.



1421-2



1430-0

1441-5

Polystyrene Wall Plates
1421-2 Toggle Switch. Ivory.
1423-2 Double Outlet. Ivory.

Mirror Wall Plates
1430-0 Push Button.
1431-0 Toggle Switch.
1433-0 Double Outlet.

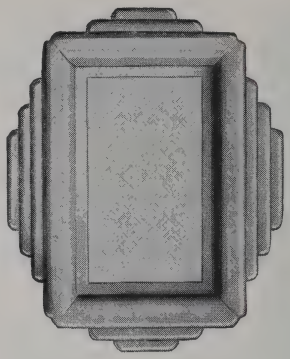
Double Gang
1434-0 Toggle Switch.
1435-0 Push Button.

Chrome Wall Plates
1441-5 Toggle Switch.
1443-5 Double Outlet.

Double Gang
1445-5 Double Outlet.

MONOWATT HOUSEWARE ELECTRICS

Wall Plates



1490-2 Plastic Wall Plate Shield. Ivory. Protects walls from finger marks and smudges. Easy to wash clean.

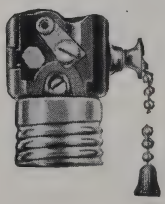
Lampholder Sockets

PLASTIC SOCKETS

Plastic housing will not conduct current and will not tarnish or rust. All Monowatt plastic sockets have "All-Purpose" cap which wires three ways — as threaded nozzle, pendant, or side-outlet. Locks securely and cannot pull apart, yet opens with the thumb and a twist of the wrist. Convenient binding screws — located on top — make wiring a cinch.

1512-1 1520-1 1540-1

1512-1 Plastic Pull Chain Socket with two outlets. Brown. 250W-250V.
1512-2 Same. Ivory.
1520-1 Plastic Pull Chain Socket. Brown. 250W-250V.
1520-2 Same. Ivory.
1540-1 Plastic Push Through Socket. Brown. 250W-250V.
1540-2 Same. Ivory.



SOCKET INTERIORS

1510-0 250-watt Pull Chain Interior with Brass Pull Chain.
1530-0 660-watt Push Through Interior. (Not illustrated.)
1550-0 250-watt Key Interior. (Not illustrated.)

MONOWATT HOUSEWARE ELECTRICS

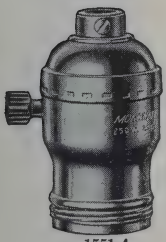
Lampholder Sockets

BRASS SOCKETS

Monowatt metal shell sockets are standard size equipped with a sealed plastic interior highly resistant to moisture, heat, and corrosion.

1501-4

1531-4



1551-4

Pull Chain

1501-4 250-watt with ⅛ inch Nozzle Cap. Brass.
1501-5 Same. Brass with silver colored Luster-on finish.
1503-4 250-watt with Pendant Cap. Brass.
1505-4 250-watt with Side Outlet Cap. Brass.

Push Through

1531-4 660-watt with ⅛ inch Nozzle Cap. Brass.
1531-5 Same. Brass with silver colored Luster-on finish.
1533-4 660-watt with Pendant Cap. Brass.
1535-4 660-watt with Side Outlet Cap. Brass.

Key Socket

1551-4 250-watt with ⅛-inch Nozzle Cap. Brass.
1553-4 250-watt with Pendant Cap. Brass.
1555-4 250-watt with Side Outlet Cap. Brass.

KEYLESS SOCKETS

1581-4

1590-1

1581-4 660 watt with ⅛-inch Nozzle Cap. Brass.
1590-1 Molded Weather-resistant Socket. Brown.

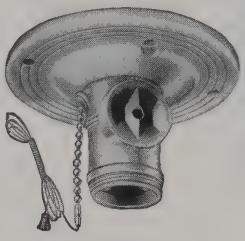
MONOWATT HOUSEWARE ELECTRICS

Lampholder Receptacles

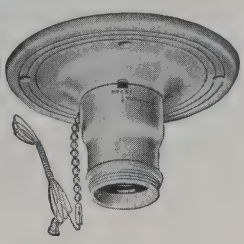
PULL CHAIN CEILING LAMPHOLDERS

With 3-Foot Braided Pull Cord

Molded of rugged plastic, these modern ceiling lampholders are resistant to chipping and cracking. Fit either 3¼ or 4-inch octagon box.



1612-1



1620-1

1612-1 250-watt with two Plug-in Outlets on 3¼-4 inch Cover. Brown. Modern design with conveniently located terminal screws greatly simplifies wiring.
1612-7 Same. White.
1620-1 250-watt on 3¼-4 inch Cover. Brown. Meets REA and Federal Specifications.
1620-7 Same. White.

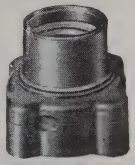
PORCELAIN PULL CHAIN CEILING LAMPHOLDER

1634-7 250-watt on 3¼-4 inch Cover. White. (Not illustrated.)

KEYLESS CEILING LAMPHOLDERS

1626-1 660 watt on 3¼-4 inch Cover with Double Terminal Screws. Brown. Has double screws for continuous wiring — soldering and taping eliminated.
1626-7 Same. White.

CLEAT RECEPTACLES



1640-1 Pony Cleat Receptacle. Open terminals. Brown. 660W-250V. (Not illustrated.)

1642-1 Pony Cleat Receptacle. Covered terminals. Brown. Special cover insulates wiring — for added safety. 660W-250V.

Multiple Lampholder Sockets and Taps

QUICK CLAMP DEVICES

Now anyone can wire — no tools — no fuss — easy as A-B-C.

For greater Quick Clamp sales, feature all Quick Clamp devices together.

1710-1 Quick Clamp Single Tap. Brown. 10A-250V, 15A-125V.
1710-2 Same. Ivory.

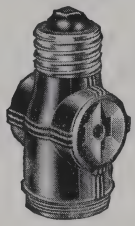
MONOWATT HOUSEWARE ELECTRICS

Multiple Lampholder Sockets and Taps

1711-1 Quick Clamp Triple Tap. Brown. Three outlets ready for use in just a few seconds. 10A-250V, 15A-125V.

1711-2 Same. Ivory.

1701-1



1706-1

1701-1 Edison Socket Adapter. Brown. An adapter to convert an ordinary outlet into a lamp socket. 660W-250V.

1701-2 Same. Ivory.

1706-1 Kitchen Current Tap. Brown. 660W-250V. New, safer strip contact eliminates brass screw shell.

1706-2 Same. Ivory.

1707-1

1721-1

1707-1 Kitchen Current Tap with Pull Chain Control. Brown. 250W-250V. New, safer strip contact eliminates brass screw shell.

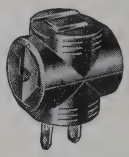
1707-2 Same. Ivory.

1271-1 Triple Outlet Table Tap. Brown, 10A-250V, 15A-125V.

1721-2 Same. Ivory.

MONOWATT HOUSEWARE ELECTRICS

Multiple Lampholder Sockets and Taps



1735-1

1735-1 Cube Tap with Reversed Prongs. Brown. 10A-250V, 15A,125V. (Not illustrated.)

1735-2 Same. Ivory.

Heater Connectors

GRIP CONNECTORS

Connectors molded of heat-resistant asbestos compound.

1801-3

1803-3

1818-3

1801-3 Grip Connectors, Switchless with Cord Spring. Black. 5A-250V, 10A-125V.

1803-3 Armored Grip Connector, Switchless with Cord Spring. Black. 5A-250V, 10A-125V.

1818-3 Miniature Grip Connector, Switchless with Cord Spring. Black. ½-inch spacing. 5A-250V, 10A-125V.

SWITCH CONNECTORS

1820-3

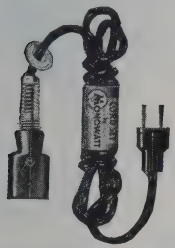
1828-3

1820-3 1000-watt Top Control Switch Connector with Cord Spring. Side Outlet. Black. Switch on top. 5A-250V, 10A-125V.

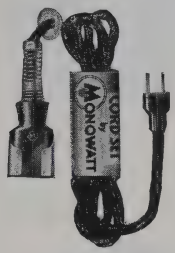
1828-3 Armored 1000-watt Switch Connector with Cord Spring and Monopull. Black. 5A-250V, 10A-125V.

MONOWATT HOUSEWARE ELECTRICS
Heater Cord Sets

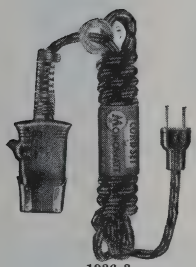
Cord Springs threaded to outside of connector to reduce possibility of shorting at point of most wear. Connectors permanently assembled at the factory — cannot work loose. New large grip cap permanently sealed on cord.



1901-3



1924-3



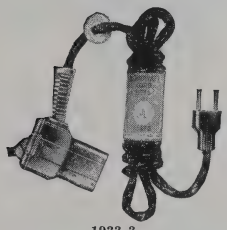
1936-3

1901-3 6 ft. No. 18-2 3000 Cycle HPD soft cotton heater cord with Switchless Connector.

1924-3 8 ft. No. 18-2 3000 Cycle HPD soft cotton heater cord with Armored Switchless Connector.

1936-3 6 ft. No. 18-2 3000 Cycle HPD soft cotton heater cord with new Armored Switch Connector.

1918-3



1933-3

1918-3 6 ft. No. 18-2 3000 Cycle HPD soft cotton heater cord with Miniature Switchless Connector.

1933-3 6 ft. No. 18-2 3000 Cycle HPD soft cotton heater cord with Side Outlet Switch Connector.

1960-3 6 ft. No. 18-2 3000 Cycle HPD soft cotton heater cord with Eyelets and Wrapped Leads.

MONOWATT HOUSEWARE ELECTRICS
Extension Cord Sets

Service Block Extension Cord Set

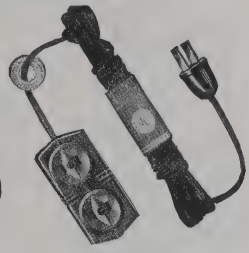


Table Tap Extension Cord Set

Service Block Extension Cord Sets

2001-1 6 ft. No. 18 POSJ Rubber Cord. Brown.
2001-2 6 ft. No. 18 POT Plastic Cord. Ivory.
2003-1 9 ft. No. 18 POSJ Rubber Cord. Brown.
2003-2 9 ft. No. 18 POT Plastic Cord. Ivory.
2006-1 15 ft. No. 18 POSJ Rubber Cord. Brown.
2006-2 15 ft. No. 18 POT Plastic Cord. Ivory.

Two Outlet Table Tap Extension Cord Sets

2022-1 9 ft. No. 18 POSJ Rubber Cord. Brown.
2022-2 9 ft. No. 18 POT Plastic Cord. Ivory.
2025-1 15 ft. No. 18 POSJ Rubber Cord. Brown.
2025-2 15 ft. No. 18 POT Plastic Cord. Ivory.

Three Outlet Table Tap Extension Cord Sets

2033-1 9 ft. No. 18 POSJ Rubber Cord. Brown.
2033-2 9 ft. No. 18 POT Plastic Cord. Ivory.
2036-1 15 ft. No. 18 POSJ Rubber Cord. Brown.

IMPROV-A-LITE
Converts Table Lamps to Use 3-way Indirect-Lite Bulb

2040-2

Easily installed: Quickly wired in three simple steps—no electrical connections to make. Complete instructions on back of card.

More attractive: Up-to-the-minute styling makes old lamps modern looking, more attractive. Harp mounted on top of socket— out of sight.

Better light: New bulb gives softer — brighter — white indirect light in choice of 3 intensities. 150, 100, 50 watts.

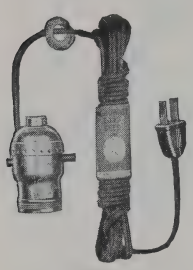
Construction Features:

1. Lustrous ivory plastic. Safer. Less danger of electrical shorts. Won't tarnish, dent, or come apart. Attractive modern appearance.
2. Harp mounted on top of socket. Raises harp above switch—out of sight—out of way.
3. 3-way high-to-low switch with quarter-turn action. Dependable operation. Fast acting. Lights 150 watts first, then 100, then 50.
4. Fewer working parts. Mechanism wears better lasts longer.
5. Molded threads with spring contact. Hold bulb securely.
6. Screw nozzle enclosed in base of socket. Closer, firmer, better-looking junction to pipe stem.
7. Permanently attached cord. Assures strong, safe connection.

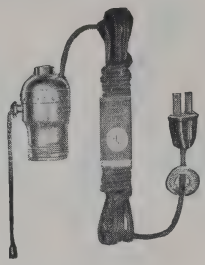
Kit Includes: Harp, 3-Way Socket—8-ft. cord — quick clamp plug.

MONOWATT HOUSEWARE ELECTRICS

SOCKET EXTENSION CORD SETS



2048-4



2066-2

2048-4 9 ft. No. 18 POSJ Brown Rubber Cord with Brass Push Through Pendant Cap Socket and Brown Cap.

2050-4 Same, except 15 ft.

2058-2 9 ft. No. 18 POT Ivory Plastic Cord with Ivory Plastic Push Through Side Outlet Socket and Ivory Cap. (Not illustrated.)

2058-4 Same. With Brown POSJ Cord and Brass Socket.

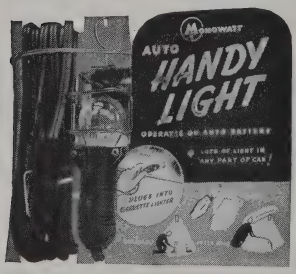
2066-2 9 ft. No. 18 POT Ivory Plastic Cord with Ivory Plastic Pull Chain Side Outlet Socket and Ivory Cap.

2066-4 Same. With Brown POSJ Cord and Brass Socket.

REPLACEMENT CORD SETS WITH STRIPPED CONDUCTORS AND PLUG

2071-1 6 ft. No. 18 POSJ Rubber Cord. Brown.
2071-2 6 ft. No. 18 POT Plastic Cord. Ivory.
2073-1 9 ft. No. 18 POSJ Rubber Cord. Brown.
2073-2 9 ft. No. 18 POT Plastic Cord. Ivory.
2076-1 15 ft. No. 18 POSJ Rubber Cord. Brown.
2076-2 15 ft. No. 18 POT Plastic Cord. Ivory.

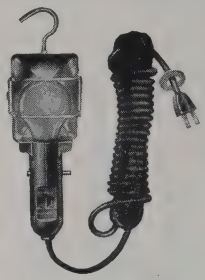
AUTO HANDY LIGHT



Plugs into any dashboard cigarette lighter. The traffic-stopping display card serves as a display piece as well as a convenient spool to hold the cord and handy light.

2090-1 Auto Handy Light complete with G-E No. 87 15 candlepower 6.75V bulb, guard, cigarette lighter plug, and 12 ft. No. 20 POSJ cord. Brown.

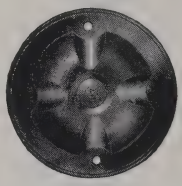
MONOWATT HOUSEWARE ELECTRICS



UTILITY LIGHT

2098-1 Utility Light with 25 ft. Brown Ribbed No. 18 SJ Cord, Brown Plastic Handle with Push Through Switch and Outlet, Snap-open reflector Guard with Swivel Hook, Molded-on Cap.

Miscellaneous

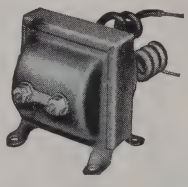


2207-1

2224-0

2226-0

2207-1 Round Plastic Push Button $2\frac{5}{16}$ inches in diameter. Brown.
2207-2 Same. Ivory.
2224-0 Bell, Double Coil, 2½-inch gong.
2226-0 Buzzer, Double Coil.



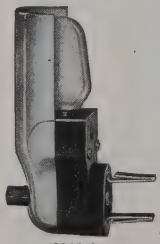
2250-0

2251-0

2250-0 Transformer, 60 Cycles, 10 Volts (for use with bells, buzzers, and small chimes).

2251-0 25 ft. Coil No. 20 Awg. Plastic-insulated Bell Wire. Assorted Colors.

2254-0 Same, 65 feet.



2363-1

NIGHT LIGHT

"Sell A Sleeper Market"

Used upstairs, downstairs, all around the house. Here is an important sleeper market crying for attention. This Monowatt Night Light is neat and clean in design — answers an important need — has strong gadget appeal for thousands of Americans — sells on sight.

2363-1 Night Light with Turn-Knob Switch and 7 watt Bulb. Brown.
2363-2 Same, Ivory.

MONOWATT HOUSEWARE ELECTRICS

Miscellaneous

2458-3

2468-3

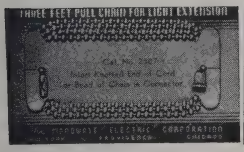
2451-3 Friction Tape, 10 ft.
2454-3 Same, 30 ft.
2458-3 Same, 60 ft.

2462-3 Rubber Tape, 5 ft.
2464-3 Same, 11 ft.
2468-3 Same, 23 ft.

2503-7 Pull Cord Extension for Socket, 4 ft. Linen. White.

2505-3 Socket Bushing, ⅛-inch rubber. Black. (Not illustrated.)

2506-2 Socket Bushing for Bed Lamp. Ivory.



2507-4

2509-0

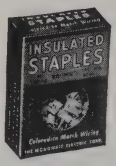
2507-4 Bead Chain Extension for Socket, 3 ft. Brass. Mounted on individual card.
2509-0 Replacement Element for Electric Appliance, 660W. For toasters and appliances using a coil-type heating element. Mounted on individual card.

2533-3 Wire Connector for joining combinations of Nos. 18, 16, and 14 Awg. solid or stranded wires. Black. 4 connectors to a card.

2539-1 Push Tite Cord Clips. Brown. (10 on a card.) Special spring feature keeps clip locked tightly in loose baseboards.
2539-2 Same, Ivory.

MONOWATT HOUSEWARE ELECTRICS

Miscellaneous



2540-1 Insulated Staples, ½-inch. Brown. (40 to a box.) Staples are colored to match wiring. Each staple is a fraction smaller than the width of the cord which means the staple will stay upright for quick, easy driving.
2540-2 Same, Ivory.

2545-0 Luminous Pendant with 5 in. Bead Chain. Mounted on individual card.

2560-4 Shade Holder, Screw Type. Brass. Fits any standard socket. Perforated to allow the heat generated by lamp to escape.

2570-4 Under-socket Harp 9-inch, ¾-inch Crystal Finial, Brass. Base slotted for easy mounting.

2572-4 Lamp Adapter, ¾-inch Crystal Finial. Spring clips fit around bulb to hold lamp shade. (Not illustrated.)

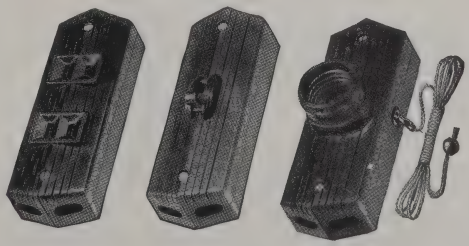
Surface Wiring Devices

A POPULAR NEW LINE OF CONSTRUCTION DEVICES

Simplified All-in-one units do the whole surface wiring job — no need for separate boxes, devices, covers and fittings.

Bases made from arc-resistant urea compound which is resistant to carbonization under moist and corrosive conditions. Meet REA and Federal specifications.

For Wiring: Basements, attics, garages, barns, cabins — any surface job.

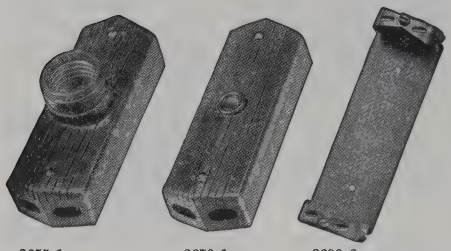


2620-1 2630-1 2650-1

2620-1 Double Outlet with Double Contacts. Brown. 10A-250V, 15A-125V.
2630-1 Single Pole "T" Rated Switch. Brown. 5A-250V, 10A-125V.
2633-1 Three Way "T" Rated Switch, Brown. 5A-250V, 10A-125V.
2650-1 Pull Chain Lampholder with 6-inch Bead Chain, Brown. 250W-250V. (Not illustrated.)
2651-1 Pull Chain Lampholder with 3 ft. Braided Linen Pull Cord. Brown. 250W-250V.

MONOWATT HOUSEWARE ELECTRICS

Surface Wiring Devices



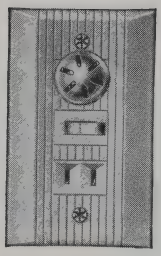
2655-1 2670-1 2690-6

2655-1 Keyless Lampholder, Brown. 660W-250V.

2670-1 Junction Box or Rosette, Brown. 660W-250V.

2690-6 Armored Cable Clamp Attachment. Clamp secures cable and acts as a continuous ground.

Combination Line



Devices and plates combined for fast, dependable wiring. Device-on-plate method saves wiring time; eliminates aligning both plate and device. Switches "T" rated 5A-250V, 10A-125V; Outlets 10A-250V, 15A-125V; Pilot Light, 6 watt lamp, 75W-125V. Specification grade.

4021-1 One Single Pole "T" Rated Switch and one Outlet with Double Contacts on Plate. Brown.
4021-2 Same. Ivory.

4024-1 Two Single Pole "T" Rated Switches on Plate. Brown.
4024-2 Same Ivory.

4025-1 One Single Pole "T" Rated Switch and one Three Way "T" Rated Switch on Plate. Brown.
4025-2 Same. Ivory.

4026-1 One Single Pole "T" Rated Switch and one Pilot Light on Plate. Brown.
4026-2 Same. Ivory.

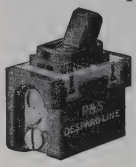
4041-1 One Single Pole "T" Rated Switch and Two Outlets with Double Contacts on Plate. Brown.
4041-2 Same. Ivory.

4046-1 One Single Pole "T" Rated Switch, One Pilot Light, and One Outlet with Double Contacts on Plate. Brown.
4046-2 Same. Ivory.

P&S-DESPARD LINE

FLUSH TUMBLER SWITCHES

Specification Type
All Bakelite — Totally Enclosed
T-Rated — As Indicated



No. 1311

Totally enclosed in dust-proof housings. Switching mechanism has a four-point break to insure against breakdown from overloads. Contact member is designed to quickly snuff all arcs.

Brown Bakelite

Cat. No.	Description	Amperes 125 V.	Amperes 250 V.	Carton	Std. Pkg.
1311	Single Pole	10T	5	10	100
1312	Double Pole	10	10	2	10
1313	Three Way	10T	5	10	50
1314	Four Way	5T	2	2	10
	Ivory				
1411	Single Pole	10T	5	10	50
1412	Double Pole	10	10	2	10
1413	Three Way	10T	5	10	30
1414	Four Way	5T	2	2	10

FLUSH TUMBLER LOCK SWITCHES

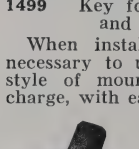
Switch Bodies are brown bakelite. Tops are polished nickel. One key furnished with each lock switch.

No. 1311-L

Brown Bakelite

Cat. No.	Description	Amperes 125 V.	Amperes 250 V.	Carton	Std. Pkg.
1311L	Single Pole	10T	5	10	100
1312L	Double Pole	10	10	2	10
1313L	Three Way	10T	5	10	50
1314L	Four Way	5T	2	2	10
1498	Key for S. P. and 3-Way	----	----	----	1
1499	Key for D. P. and 4-Way	----	----	----	1

When installing P&S-Despard switches it is necessary to use mounting straps. The correct style of mounting strap is furnished, without charge, with each P&S-Despard plate.



No. 1311-MO

SINGLE POLE MOMENTARY CONTACT SWITCHES

These switches are of the same type and style as No. 1311.

Brown Bakelite

Cat. No.	Circuits	Amperes 125V.	Amperes 250V.	Carton	Std. Pkg.
1311MO	Normally Open	6	3	2	10
1311MC	Normally Closed	6	3	2	10
	Ivory				
1411MO	Normally Open	6	3	2	10
1411MC	Normally Closed	6	3	2	10

Switch dimensions: Single-pole and 3-Way — length 1⅝ inches, width $\frac{33}{64}$-inch, depth 1$\frac{7}{16}$ inches; Double-pole and 4-Way — length 1⅝ inches, width ⅞-inch, depth 1$\frac{31}{32}$ inches.

P&S-DESPARD LINE

FLUSH TUMBLER SWITCHES

All Bakelite — Totally Enclosed — T-Rated

No. 1311-LT

Luminous Handle

Brown Bakelite

Cat. No.	Description	Amperes 125 V.	Amperes 250 V.	Carton	Std. Pkg.
1311-LT	Single Pole	10T	5	10	100
1312-LT	Double Pole	10	10	2	10
1313-LT	Three-Way	10T	5	10	50
1314-LT	Four-Way	5T	2	2	10
	Ivory				
1411-LT	Single Pole	10T	5	10	50
1412-LT	Double Pole	10	10	2	10
1413-LT	Three-Way	10T	5	10	50
1414-LT	Four-Way	5T	2	2	10

RESIDENTIAL TYPE SWITCHES

Bakelite — Totally Enclosed

Brown Bakelite

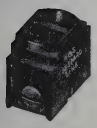
Cat. No.	Style	Amperes 125V.	Amperes 250V.	Carton	Std. Pkg.
1391	S.P.	10	5	10	100
1393	3-Way	10	5	10	50
	Ivory				
1491	S.P.	10	5	10	50
1493	1-Way	10	5	10	30

No. 1391

Switch dimensions: Single-pole and 3-way — length 1⅝ inches, width $\frac{23}{32}$-inch, depth $1\frac{1}{16}$ inches; double-pole and 4-way — length 1⅝ inches, width ⅞-inch, depth $1\frac{5}{32}$ inches.

SINGLE CONVENIENCE OUTLETS

Parallel Slots



No. 1320

No. 1327

No. 1341

For assembly in combination with switches, radio outlets or other P&S-Despard devices — Double, wide contacts grip both sides of the plug cap fingers.

15 Amps., 125 Volts; 10 Amps., 250 Volts

Cat. No. Brown	Cat. No. Ivory	Description	Carton	Std. Pkg. Brown	Std. Pkg. Ivory
1320	**1420**	Single Outlet	10	100	100
1341	**1441**	Pilot Light Outlet	10	30	20
1327	**1427**	Insulating Adapter	10	50	30

When installing P&S-Despard devices it is necessary to use mounting straps. The correct style of mounting strap is furnished, without charge, packed with each P&S-Despard plate.

P&S-DESPARD LINE

DUPLEX AND TRIPLEX CONVENIENCE OUTLETS

13202

13203

Have one-piece bakelite bodies, four binding screws for feed-thru circuits, and embody the same constant tension contacts as single convenience outlets.

15 Amp., 125 Volts; 10 Amp., 250 Volts

Duplex, Parallel Slots

Brown Cat. No.	Brown Carton	Brown Std. Pkg.	Ivory Cat. No.	Ivory Carton	Ivory Std. Pkg.
13202	10	100	**14202**	10	50

Triplex, Parallel Slots

13203	10	100	**14203**	10	50

Duplex, 2-Circuit

13202Y	10	100	**14202Y**	10	50

ATTACHMENT PLUG CAPS

Either regular or polarized, with parallel blades. Due to their rectangular shape these caps are self-locating; $\frac{5}{32}$-inch cord hole.

Brown Bakelite Cat. No.	Brown Bakelite Std. Pkg.	Brown Bakelite Carton	Attachment Plug Caps	Ivory Cat. No.	Ivory Std. Pkg.	Ivory Carton
1321	100	10	Regular	**1421**	50	10
1326	100	10	Polarized	**1426**	50	10

RUBBER ATTACHMENT PLUG CAP

Two-piece, rectangular, black rubber attachment plug cap with parallel blades.

Cat. No.	Description	Carton	Std. Pkg.
DR	Two-piece, $\frac{5}{16}$" Cord Hole	25	100

RADIO OUTLET AND CAP

No. 1322

No. 1323

Outlets for antenna and ground connections can be assembled with switches and convenience outlets.

Radio Outlet

Brown Bakelite Cat. No.	Brown Bakelite Carton	Brown Bakelite Std. Pkg.	Brown Bakelite Pkg. Wt.	Ivory Cat. No.	Ivory Carton	Ivory Std. Pkg.	Ivory Pkg. Wt.
1322	2	10	1	**1422**	2	10	1

Radio Attachment Plug Cap

1323	2	10	1	**1423**	2	10	1

P&S-DESPARD LINE

PILOT LIGHTS AND NIGHT LIGHTS

With Metal Hoods and Reflectors

No. 1340

Each night light and pilot light is furnished complete with S-6, 6-watt, 120-volt lamp and metal reflector or hood.

No. 1339

Rating — 75 Watts, 125 Volts

Cat. No.	Description	Carton	Std. Pkg.
	Night Lights — With Clear Lamps		
1339	Chromium Plated Reflector	10	30
1339-B	Brush Brass Reflector	10	30
	Pilot Lights — With Red Lamps		
1340	Chromium Plated Hood	10	30
1340-B	Brush Brass Hood	10	30

When above Night Lights and Pilot Lights are desired without lamps, specify regular catalog number and suffix "LL." When Pilot Lights are desired with Clear Lamps, specify regular catalog number with suffix "CL."

When installing the above devices, it is necessary to use mounting straps. The correct style of mounting strap is furnished without charge with each P&S-Despard plate.

FLUSH PILOT LIGHTS

Furnished complete with S-6, 6-watt, 120 volt, clear Mazda lamp and red jewel. No. 1376 is mounted in No. 1347 single opening strap. No. 1377, for use in combination with P&S-Despard switch or outlet, is mounted in No. 1348 strap.

No. 1377

75 Watts, 125 Volts

Cat. No.	Type	Carton	Std. Pkg.
1376	Single	10	30
1377	Combination	10	30

FLUSH NEON PILOT LIGHT

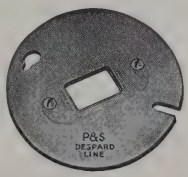
Rating 1/15 Watt, 125 Volts

Ideal for all types of Pilot Light applications — the Neon lamp gives off no heat. Economical to operate (1/25 watt lamp). Adaptable for use in all combinations, as well as a single unit. Has unbreakable, prismatic Plexiglass dome.

Cat. No.	Description	Carton	Std. Pkg.	Wt.Lbs. Std.Pkg.
1375	Brown	10	30	3
1475	Ivory	10	30	3

METAL BOX COVERS

Furnished complete with No. 1354 appliance strap. Suitable for mounting any one P&S-Despard wiring device on a 3¼-inch box or one or two devices on 4-inch box.



No. 1361

Single Opening Round Cover

Cat. No.	For Box	Carton	Std. Pkg.	Pkg. Wt.
1361	3¼	10	100	25
1362	4	10	100	33

Two Opening Round Cover

1363	4	10	50	18

P&S-DESPARD LINE

REFLECTORS, HOODS AND LAMPS

For Use with P&S-Despard Night Lights and Pilot Lights

No. 1342

No. 1343

No. 1352

No. S-6 Clear

Cat. No.	Description	Std. Pkg.	Pkg. Wt.
1342	Red Plastic Jewel for Nos. 1376 and 1377	30	1½
1343	Chromium Plated Hood for No. 1340-B	30	2
1343-B	Brush Brass Hood for No. 1340-B	30	2
1352	Chromium Plated Reflector for No. 1339	30	2
1352-B	Brush Brass Reflector for No. 1339-B	30	2
S-6 Clear	Lamp Only (6W., 120V.)	120	5
S-6 Red	Lamp Only (6W., 120V.)	120	5

Carton quantity, 10.

BLANK, BELL PUSH, AND NAME PLATE

No. 1345

No. 1344

No. 1330

No. 1345 blank insert may be used to fill unused openings in P&S-Despard plates, is made with ⅜-inch cord hole.

No. 1344 is an all-bakelite bell push that will not discolor or be harmed by exposure to weather.

No. 1330, stainless steel, or No. 1330-1 brush brass, name plate with transparent window and blank card. Fits all P&S-Despard plate openings.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
1344	Bell Push (Brown)	10	20	2
1444	Bell Push (Ivory)	5	10	1
1345	Blank Insert (Brown)	5	10	1
1445	Blank Insert (Ivory)	5	10	1
1330	Name Plate (Stainless Steel Frame)	10	30	¼

APPLIANCE STRAP

For mounting single P&S-Despard devices in small spaces. Ideal for appliance applications. Permits saving in space. Length, $2\frac{7}{32}$ inches; width, $\frac{29}{32}$ inch. Mounting screw holes spaced on $1\frac{31}{32}$-inch centers, tapped for 6-32 screws.

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
1354	10	100	3

P&S-DESPARD LINE

MOUNTING STRAPS

No. 1347

No. 1348

With each P&S-Despard plate is packed the correct style mounting strap for that particular plate. They may be ordered separately, as listed.

Cat. No.	Openings	Carton	Std. Pkg.	Pkg. Wt.
1347	Single	10	50	5
1348	Three	10	50	5

NARROW BAKELITE PLATES

No. 1656

No. 1657

No. 1658

No. 1659

No. 1660

No. 1661

Designed primarily for marine wiring, these plates are suitable for narrow partitions or any place where standard size plates are not practical.

Special mounting straps for use with these plates must be ordered separately.

Vertical Opening for One Device

Dimensions: 1⅝ x 4½ inches. Screw spacing, 2⅜ inches.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
1656	Brown Plate	10	100	6
1656-I	Ivory Plate	10	100	6
1657	Mounting Strap for above	10	100	5

Vertical Opening for One Device

Dimensions: 1⅝ x 4½ inches. Screw spacing, 3⅛ inches.

1658	Brown Plate	10	100	6
1658-I	Ivory Plate	10	100	6
1659	Mounting Strap for above	10	50	3

Vertical Opening for Two Devices

Dimensions: 1¾ x 6⅛ inches. Screw spacing, 4⅜ inches.

1660	Brown Plate	10	100	7
1660-I	Ivory Plate	10	100	7
1661	Mounting Strap for above	10	100	6

NEW PROCESS METAL WALL PLATES

For P&S-DESPARD AND P&S WIRING DEVICES

New Process Metal Plates are furnished in three finishes—**Brown-X** and **Ivory-X** plates have a multiple coat of baked-on, insulating enamel. Closely resembling Bakelite, they have all of the sturdiness of metal plates—they will not warp or crack and their surface is very satisfactory for painting. **Chrome-X** plates are made of .040-inch stainless steel. Their soft, semi-polished, silver-like finish is right in the metal and will last indefinitely.

New Process Metal Plates are listed on a following page.

P&S-DESPARD LINE

NEW PROCESS METAL PLATES FOR P&S-DESPARD DEVICES

No. 98041

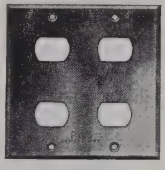
No. 99011

No. 98021

Brown-X and Ivory-X Plates

Cat. No. Brown-X	Cat. No. Ivory-X	Description	Carton	Std. Pkg.	Pkg. Wt.
		Single Gang			
98011	99011	1 Opening (*)	10	100	20
98021	99021	2 Openings	10	100	20
98031	99031	3 Openings	10	30	6
98041	99041	1 Opening (†)	10	100	20
		Two Gang			
98012	99012	2 Openings (*)	2	10	4
98022	99022	4 Openings	2	10	4
98032	99032	6 Openings	2	10	3
98042	99042	2 Openings (†)	2	10	4
		Three Gang			
98013	99013	3 Openings (*)	2	10	5
98023	99023	6 Openings	2	10	5
98033	99033	9 Openings	2	10	4
98043	99043	3 Openings (†)	2	10	5

* Horizontal Openings. † Vertical Openings.


No. 97022

No. 97131

No. 97141

Chrome-X (.040" Stainless Steel) Plates

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
	Single Gang			
97011	1 Opening (horizontal)	10	100	22
97021	2 Openings	10	50	11
97031	3 Openings	10	30	7
97041	1 Opening (vertical)	10	100	19
97131	2 Openings (‡)	2	10	3
97141	2 Openings (§)	2	10	3
	Two Gang			
97012	2 Openings (horizontal)	2	10	4
97022	4 Openings	2	10	4
97032	6 Openings	2	10	3
97042	2 Openings (vertical)	2	10	4
	Three Gang			
97013	3 Openings (horizontal)	2	10	5
97023	6 Openings	2	10	5
97033	9 Openings	2	10	4
97043	3 Openings (vertical)	2	10	5

Wall plates listed above are supplied complete with the necessary straps for mounting P&S-Despard devices.

‡With one insulating adapter. §With two insulating adapters.

P&S-DESPARD LINE

BROWN BAKELITE AND IVORY UNILINE WALL PLATES

FOR P&S-DESPARD DEVICES

No. 91041

No. 91011

No. 91021

Brown Cat. No.	Brown Carton	Brown Std. Pkg.	Brown Pkg. Wt.	Ivory Cat. No.	Ivory Carton	Ivory Std. Pkg.	Ivory Pkg. Wt.
			Single Gang				
			One Opening (Vertical)				
91041	10	100	14	92041	10	100	14
			One Opening (Horizontal)				
91011	10	100	16	92011	10	100	16
			Two Openings				
91021	10	50	8	92021	10	50	7
			Three Openings				
91031	10	30	6	92031	10	30	6
			Two Gang				
			Two Openings (Vertical)				
91042	10	50	16	92042	10	30	10
			Two Openings (Horizontal)				
91012	10	50	16	92012	10	30	10
			Four Openings				
91022	10	30	9	92022	10	30	9
			Six Openings				
91032	10	20	5	92032	10	20	5
			Three Gang—Six Openings				
91023	10	20	6	92023	10	20	6

SECTIONAL PLATES

No. 91311

No. 91321

No. 91331

No. 91411

No. 91421

No. 91431

Brown Cat. No.	Brown Carton	Brown Std. Pkg.	Brown Pkg. Wt.	Ivory Cat. No.	Ivory Carton	Ivory Std. Pkg.	Ivory Pkg. Wt.
			End Section, One Horizontal Opening				
91311	10	50	10	92311	10	50	10
			End Section, Two Openings				
91321	10	50	10	92321	10	50	10
			End Section, Three Openings				
91331	10	30	8	92331	10	30	8
			Center Section, One Horizontal Opening				
91411	10	50	9	92411	10	50	9
			Center Section, Two Openings				
91421	10	50	9	92421	10	50	9
			Center Section, Three Openings				
91431	10	30	7	92431	10	30	7

P&S-DESPARD LINE

BRASS PLATES FOR P&S-DESPARD DEVICES

No. 94011

No. 94031

No. 94041

No. 94131

Struck-Up .040-Inch Brass

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
	Single Gang			
94011	1 Opening (*)	10	100	24
94021	2 Openings	10	50	12
94031	3 Openings	10	30	7
94041	1 Opening (†)	10	100	19
94131	2 Openings (‡)	2	10	3
94141	2 Openings (§)	2	10	3
	Two Gang			
94012	2 Openings (*)	2	10	8
94022	4 Openings	2	10	6
94032	6 Openings	2	10	5
94042	2 Openings (†)	2	10	8
	Three Gang			
94013	3 Openings (*)	2	10	7
94023	6 Openings	2	10	5
94033	9 Openings	2	10	4
94043	3 Openings (†)	2	10	7

Struck-Up .060-Inch Brass

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
	Single Gang			
96011	1 Opening (*)	10	100	36
96021	2 Openings	10	50	18
96031	3 Openings	10	30	12
96041	1 Opening (†)	10	100	36
96131	2 Openings (‡)	2	10	4
96141	2 Openings (§)	2	10	4
	Two Gang			
96012	2 Openings (*)	2	10	7
96022	4 Openings	2	10	7
96032	6 Openings	2	10	6
96042	2 Openings (†)	2	10	7
	Three Gang			
96013	3 Openings (*)	2	10	10
96023	6 Openings	2	10	8
96033	9 Openings	2	10	7
96043	3 Openings (†)	2	10	10

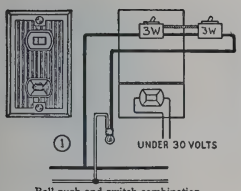
*Horizontal. †Vertical. ‡With one insulating adaptor. §With two insulating adapters.

The brass plates listed above are supplied complete with the necessary straps for mounting P&S-Despard devices.

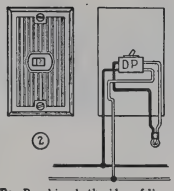
We do not recommend the installation of P&S-Despard Convenience Outlets, in non-insulated metal plates, unless the plates are equipped with Bakelite Insulating Adapters.

P&S-DESPARD LINE

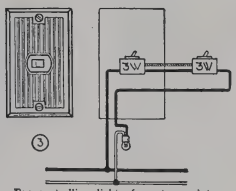
WIRING DIAGRAMS



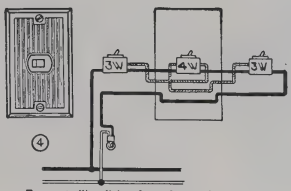
Bell push and switch combination



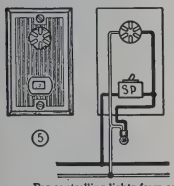
For Breaking both sides of line



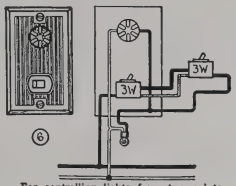
For controlling lights from two points



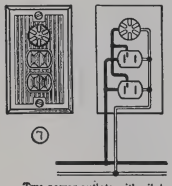
For controlling lights from three points



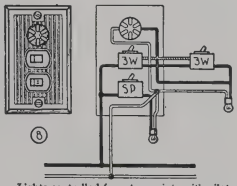
For controlling lights from one point with pilot light indication



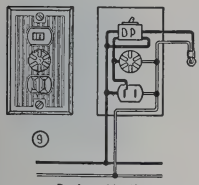
For controlling lights from two points with pilot light indication



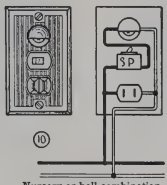
Two power outlets with pilot light indication



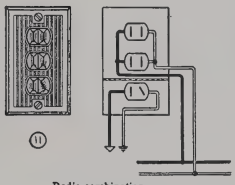
Lights controlled from two points with pilot, and lights controlled from one point



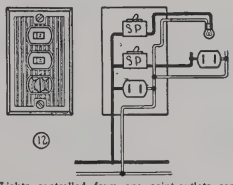
Dual combination
pilot indicates for outlet and cellar light



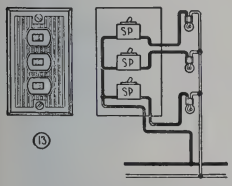
Nursery or hall combination
night light with switch and outlet



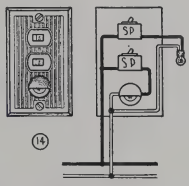
Radio combination
Two power and radio outlet



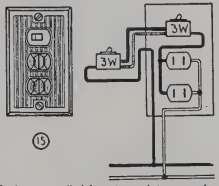
Lights controlled from one point-outlets controlled by switch and outlet hot for vacuum cleaner, etc.



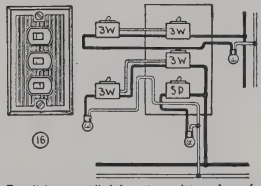
For controlling three lights individually from the same point



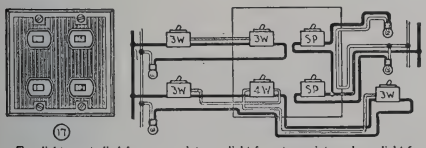
For controlling lights from one point and night light with switch



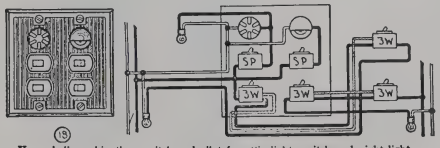
Outlets controlled from two points, example: switch in bedroom and switch and outlets in kitchen



Two lights controlled from two points and one from one point, example: living room, upper hall and porch



Two lights controlled from one point, one light from two points and one light from three points, example: porch, vestibule, living room and upper hall

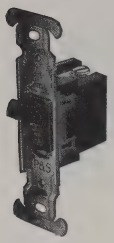


Upper hall combination, switch and pilot for attic light, switch and night light for hall, 3 way for hall light and 3 way for living room light

P&S WIRING DEVICES

TUMBLER FLUSH SWITCHES—BAKELITE

T-Rated, as Indicated



No. 1815-D

P&S 1815-D type switches have T-rating for type C lamp loads. The mechanism is fully enclosed in a dust-proof bakelite housing. Meets Federal Specifications W-S-896 and conforms to REA requirements. They are made to fit rectangular opening brass or bakelite plates. Their small size allows ample room in box for wiring and splicing.

One No. 1499 Key furnished with each lock switch.

Standard Type—Brown Bakelite

Cat. No.	Description	Amperes 125V.	Amperes 250V.	Carton	Std. Pkg.	Pkg. Wt.
1815-D	S.P., Ind.	10T	5	10	100	20
1825-D	D.P., Ind.	10	10	10	50	13
1835-D	Three-Way	10T	5	10	50	13
1844-D	Four-Way	5T	2	2	10	4

Standard Type—Ivory

1915-D	S.P., Ind.	10T	5	10	50	11
1925-D	D.P., Ind.	10	10	10	10	4
1935-D	Three-Way	10T	5	10	30	7
1944-D	Four-Way	5T	2	2	10	4

Lock Type

1815-DL	S.P., Ind.	10T	5	10	100	20
1825-DL	D.P., Ind.	10	10	10	50	13
1835-DL	Three-Way	10T	5	10	50	13
1844-DL	Four-Way	5T	2	2	10	4

Single Pole—Momentary Contact—Brown

1815-DMC	Cir. Nor. Closed	6	3	2	10	4
1815-DMO	Cir. Nor. Open	6	3	2	10	4

Single Pole—Momentary Contact—Ivory

1915-DMC	Cir. Nor. Closed	6	3	2	10	4
1915-DMO	Cir. Nor. Open	6	3	2	10	4

Dimensions of bakelite bodies — length 1½ inches, width ⅞-in, depth 1$\frac{3}{32}$ inches.

15-ampere switches for special application and switches with luminous handles can be furnished on order.

PORCELAIN CUP SWITCHES

These sturdy porcelain cup switches have mechanisms designed for positive action and long wear.

Dimensions of cups: Width 1½ inches; length 1$\frac{13}{16}$ inches; depth 1$\frac{1}{16}$ inches.

Carton quantity, 10.

No. 5301

No. 4301

With Wide Mounting Ears

Cat. No. Brown	Cat. No. Ivory	Description	Amperes 125V.	Amperes 250V.	Std. Pkg.	Pkg. Wt.
5301	5301-I	Single Pole	10	5	100	24
5303	5303-I	Three Way	10	5	50	24

With Narrow Mounting Ears

4301	4301-I	Single Pole	10	5	100	22
4303	4303-I	Three Way	10	5	50	22

P&S WIRING DEVICES

NO. 6960 DOOR SWITCH AND BOX

No. 6960

No. 3047

Switch mounted in porcelain cup. Plate, 3¾x1¼ inches. Box has ⅝ and ⅞-inch knockouts on ends and bottom.

Rating of switch — 6 amperes, 125 volts; 3 amperes, 250 volts.

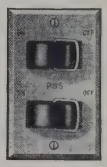
Hole required: Box, 1¼x2⅞x2¾ inches deep; switch, 1$\frac{1}{16}$x2⅜x1½ inches deep.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
6960	Light On, Door Open	5	25	17
6961	Light On, Door Closed	2	10	8
3047	Iron Box for Above	5	25	17

WEATHERPROOF FLUSH SWITCHES

For Single Gang Installation

No. 4521



No. 4525

No. 4526

Ideal for installations where protection against the elements is necessary — in industrial plants, garages, creameries, distilleries, breweries, loading platforms, residences, etc. No corrosion, no short circuits due to moisture. Devices consist of neat, compact units—any one of these weatherproof devices may be installed in a single gang switch box or flat face FS fitting. Complete protection—each device is sealed with cover and plate gaskets.

Switches are "T" rated for Type C lamp loads. Outlets have constant tension contacts, gripping both sides of the plug cap blades. Plates are .060-inch brass with bright metallic finish—not affected by atmospheric conditions.

Nos. 4525 and 4526 are furnished with single pole switches. Switches may be easily interchanged with other P&S-Despard switches for double pole, three-way or four-way installations.

Outlet rating No. 4526 device: 15 amp., 125 volts; 10 amp., 250 volts.

Cat. No.	Description	Amperes 125V	Amperes 250V	Carton	Std. Pkg.	Pkg. Wt.
4521	Single Pole Switch	10T	5	2	10	6
4522	Double Pole Switch	10	10	2	10	6
4523	Three Way Switch	10T	5	2	10	6
4524	Four Way Switch	5T	2	2	5	3
4525	Two S.P. Switches	10T	5	2	10	7
4526	S.P. Switch & Outlet	10T	5	2	10	7

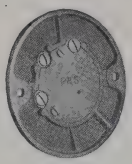
P&S WIRING DEVICES

BOX COVER SWITCHES

For 3¼ and 4-Inch Boxes

No. 1231

Side View


No. 1233
Back View

All switches have positive kick-offs—arc-snuffers—preloaded contacts—and high velocity mechanism. T-rated switches are made of black bakelite—non-rated switches are made of brown bakelite—and Oil Burner switches of red bakelite. Approved by Underwriters' Laboratories.

With 3¼-Inch Box Covers

Cat. No.	Description	Amperes 125V	Amperes 250V	Carton	Std. Pkg.
1131	Single Pole, Brown..	10	5	10	50
1133	3-Way, Brown	10	5	10	50
1231	Single Pole, Black....	10T	5	10	50
1233	3-Way, Black	10T	5	10	50
1131RC	S.P., Oil Burner, Red	10	5	10	50

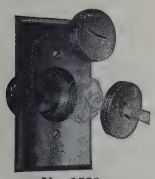
With 4-Inch Box Covers

1141	Single Pole, Brown..	10	5	10	50
1143	3-Way, Brown	10	5	10	50
1241	Sngle Pole, Black....	10T	5	10	50
1243	3-Way, Black	10T	5	10	50

Standard package weights: 3¼-inch devices — 11 lbs.; 4-inch devices — 13 lbs.

FLOOR OUTLET

15 Amp., 125 Volts; 10 Amp., 250 Volts


No. 1532

With recessed receptacle for use in floors, base boards etc.

Furnished with two caps—one a cord hole cap for retaining attachment plug in receptacle, the other a protective flush screw cap which closes the outlet when device is not in use. Complete with .060-inch brush brass plate.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
1532	With 2 Flush Screw Caps	2	10	8

2-WIRE POLARIZED RECEPTACLES AND CAPS

Flush Receptacle—Black Bakelite

Will fit standard single convenience outlet plates. Screw hole spacing, 3 9/32 inches.

Cat. No.	Amperes 125 V.	Amperes 250 V.	Carton	Std. Pkg.	Pkg. Wt.
5552	....	20	10	30	12
5566	15	10	10	30	12
	No. 5552 with 3¼-Inch Box Cover				
7272	....	....	10	30	18
	No. 5552 with 4-Inch Box Cover				
7273	....	....	5	30	20

No. 5552
No. 5566

P&S WIRING DEVICES

No. 7091

Polarized Cord Grip Connector Body—Composition

With steel covered cord-grip, cadmium plated.

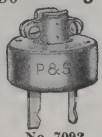
15 Amp., 125 Volts; 10 Amp., 250 Volts

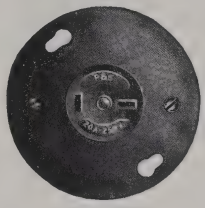
Cat. No.	Cord Hole	Carton	Std. Pkg.	Pkg. Wt.
7091	9/16	10	30	8

Polarized Cord Grip Cap

For No. 7091 connector body. Bakelite, steel covered, cadmium plated finish.

Cat. No.	Cord Hole	Carton	Std. Pkg.	Pkg. Wt.
7092	9/16	10	30	6


No. 7092


No. 7272

Flush Receptacles with Box Covers

Cadmium plated covers standard.

20 Amperes, 250 Volts

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
	With 3¼-Inch Box Cover		
7272	10	30	20
	With 4-Inch Box Cover		
7273	5	30	22

3-WIRE CORD CONNECTOR BODIES AND CAPS

Cord Grip Connector Bodies

Composition, steel covered cord-grip, cadmium plated.

No. 7082

10 Amp., 250 Volts; 15 Amp., 125 Volts

Cat. No.	Cord Hole	Carton	Std. Pkg.	Pkg. Wt.
7082	9/16	10	50	16
	20 Amperes, 250 Volts			
7088	5/8	10	20	9

Cord Grip Caps

No. 7055

No. 7082 connector body; No. 7089 cap for No. 7088 connector body.

10 Amp., 250 Volts; 15 Amp., 125 Volts

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
7055	10	50	7
	20 Amperes, 250 Volts		
7089	10	20	10

Single Flush Receptacle

Black bakelite. Will fit standard single convenience outlet plates.

No. 6051

15 Amp., 125 Volts; 10 Amp., 250 Volts

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.
6051	10	50	25
	With 4-Inch Box Cover		
7275	5	50	30

3-WIRE 20-AMP. POLARIZED RECEPTACLES

Flush Bakelite Receptacle

No. 6810

This receptacle will fit all standard convenience outlet plates.

Screw hole spacing, 3 9/32 inches.

20 Amperes, 250 Volts

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.
6810	10	30	15
	With 4-Inch Box Cover		
7277	5	30	20

P&S WIRING DEVICES

PORCELAIN INTERCHANGEABLE TWO-SCREW SOCKET BODIES

Key

Cat. No.	Watts	Carton	Std. Pkg.	Pkg. Wt.
O-26	250	10	100	28

Keyless

Cat. No.	Watts	Carton	Std. Pkg.	Pkg. Wt.
O-27	660	10	100	17

Pull, Brass Pendent

Cat. No.	Watts	Carton	Std. Pkg.	Pkg. Wt.
O-47	250	10	100	28

Key, Shurlok

Cat. No.	Watts	Carton	Std. Pkg.	Pkg. Wt.
O-38	250	10	100	38

Keyless, Shurlok

Cat. No.	Watts	Carton	Std. Pkg.	Pkg. Wt.
O-39	660	10	100	20

No. 1299 Shurlok Keys are not furnished with Shurlok Sockets and must be ordered separately.

PORCELAIN INTERCHANGEABLE TWO-SCREW SOCKET CAPS

Pendent for Reinforced Cord

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
O-PA	10	100	13

Straight Nipple—Brass

Cat. No.	Size In.	Carton	Std. Pkg.	Pkg. Wt.
O-PC	⅛	10	100	17
O-PE	⅜	10	100	17
O-PZ	½	10	100	26

Pendent Porcelain Cap with Cord Grip for ½-Inch Cord

Cat. No.	Size In.	Car. ton	Std. Pkg.	Pkg. Wt.
O-PY	½	10	100	19

P&S WIRING DEVICES

MEDIUM BASE HUSK SOCKETS

These porcelain sockets are designed for show windows, show case, cove, trough or reflector lighting. Easily wired and installed.

No. 856

With Body Terminals

660 Watts, 250 Volts

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
856	⅛-Inch	10	100	28
858	⅜-Inch	10	100	28
861	½-Inch	10	100	30
874	Body only	10	100	25

SIDE OUTLET SOCKETS

With Body Terminals

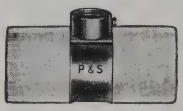
660 Watts, 250 Volts

Cat. No.	Description	Std. Pkg.	Pkg. Wt.
926	⅛-Inch Nipple	100	30
927	⅜-Inch Nipple	100	30

Carton, 10.

No. 926

PORCELAIN DUPLEX SOCKETS



No. 1905

Especially suitable for show window and show case lighting.

660 Watts, 250 Volts

Cat. No.	Nipple Inch	Carton	Std. Pkg.	Pkg. Wt.
1905	⅜	10	100	40
1906	⅛	10	100	40

INTERMEDIATE BASE HUSK SOCKET

75 Watts, 250 Volts

⅛-Inch Cap

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
6856	Straight Cap	20	100	15

No. 6856

PORCELAIN REFLECTOR SOCKET BODY

660 Watts, 600 Volts

Designed for use in fixtures and reflectors suitable for Type C medium base lamps. Supporting screws spaced 1⅜ inches on centers. Length of body—2¼ inches, diameter 1¾ inches.

No. S-62

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
S-62	10	100	36

P&S WIRING DEVICES

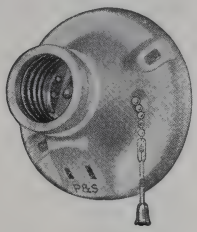
PORCELAIN OUTLET BOX RECEPTACLES

With Shadeholder Groove

Pull—250 Watts, 250 Volts; Keyless—660 Watts, 250 Volts
Outlet—15 Amp., 125 Volts; 10 Amp., 250 Volts

ONE PIECE—FLUSH BACK

No. 4026-2



No. 5026-2

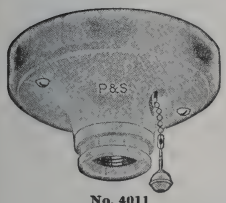
Cat. No.	Description	Carton	Std. Pkg.
	For 3¼-inch Outlet Boxes*		
4026	Insulated Nickel Chain	10	50
4026-2	Short Chain and Long Cord	10	50
	For 3¼- and 4-inch Outlet Boxes†		
4046	Insulated Nickel Chain	10	50
4046-2	Short Chain and Long Cord	10	50
	With Convenience Outlet		
	For 3¼-inch Outlet Boxes*		
5026	Insulated Nickel Chain	10	50
5026-2	Short Chain and Long Cord	10	50
	For 4-inch Outlet Boxes‡		
5046	Insulated Nickel Chain	10	50
5046-2	Short Chain and Long Cord	10	50

*Diameter base, 3⅝ inches; height overall, 2¼ inches; screw hole spacing, 2¾ inches.

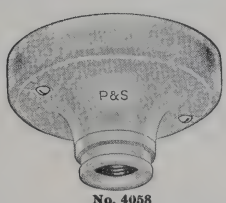
†Diameter base, 4⅛ inches; height overall, 2¼ inches; elongated screw holes with knockouts spaced for 3¼- or 4-inch boxes.

‡Diameter of base, 4⅛ inches; height overall, 2¼ inches; screw hole spacing, 3½ inches.

TWO-PIECE—RECESSED BACK



No. 4011



No. 4058

For mounting on boxes with ears or studs.

For 3¼-Inch Boxes*

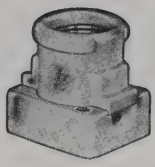
Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
4011	Pull, with Short Chain, Long Cord	10	50	50
4058	Keyless	10	50	50
	For 4-Inch Boxes†			
4012	Pull, with Short Chain, Long Cord	10	50	65
4057	Keyless	10	50	65

*Diameter base, 4 inches; height, 2⅛ inches; screw hole spacing, 2¾ inches.

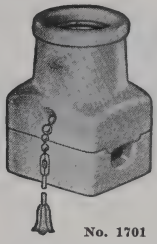
†Diameter base, 3¾ inches; height, 2⅛ inches; screw hole spacing, 3½ inches.

P&S WIRING DEVICES

PORCELAIN CABLETTES



No. 1700



No. 1701

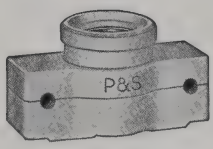
Cablettes are designed for use with non-metallic sheathed cable and permit installation directly on the surface without the use of boxes, clamps, connectors or soldering. Easy-to-wire two-piece design consisting of base and lampholder body. A removable knock-out is built into each device to close the opening when feed-thru is not required.

Rating—Keyless: 660 Watts, 250 Volts
Pull: 250 Watts, 250 Volts

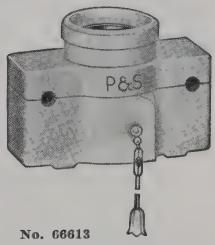
Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
1700	Keyless Receptacle	10	50	20
1701	Pull Receptacle	10	30	29

PORCELAIN CLEAT RECEPTACLES

With Rectangular Base and Shadeholder Groove



No. 66612



No. 66613

Construction Quartermaster's Specification No. 8000-E permits the use of both surface and knob tube wiring. These receptacles are specified for installation where tube or open wiring is used.

Rating—Keyless: 660 Watts, 250 Volts
Pull: 250 Watts, 250 Volts

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
66612	Keyless, 2-Piece	5	100	55
66613	Pull, 2-Piece	5	100	60

Dimensions: Keyless—3¼x1⅛x1⅛ inches overall height, screw spacing 1⅝ inches. Pull—3¼x1⅛x2⅛ inches overall height, screw spacing, 1$\frac{29}{32}$ inches.

PORCELAIN SURFACE RECEPTACLE

Concealed Terminals

No. 598

The collar of this receptacle is threaded onto the lamp shell. Base is slotted to accommodate either open or concealed wiring.

Diameter base, 1⅞ inches; height, 1⅞ inches; screw spacing, 1$\frac{5}{32}$ inches.

660 Watts, 600 Volts

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
598	10	100	27

P&S WIRING DEVICES

PORCELAIN SURFACE RECEPTACLE

KEYLESS—HEAVY DUTY
660 Watts, 250 Volts

Keyless, heavy duty cleat. Provided with especially broad shoulders for supporting screws. Base is $2\frac{15}{16}$x$2\frac{11}{16}$ inches; height, $1\frac{5}{8}$ inches.

Without Shadeholder Groove

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.
9402	10	100	35

PONY CLEAT

With Screw Terminals
660 Watts, 250 Volts

Pony cleat. Diameter of base is $2\frac{1}{2}$ inches. Height, $1\frac{5}{8}$ inches. Holes for supporting screws are on $1\frac{31}{32}$-inch centers.

No. 50715

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
50715	10	100	28

INTERMEDIATE BASE

Cleat Receptacles
75 Watts, 250 Volts

No. 6715

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
6715	25	100	15

Diameter $1\frac{7}{8}$ inches; screw hole spacing $1\frac{1}{2}$ inches.

PULL CHAIN RECEPTACLES

250 Watts, 250 Volts

For outlet boxes, metal signs and lighting units. For use with $1\frac{1}{2}$-inch throat.

Pull, with Short Chain, Long Cord

No. 998

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.
998	10	100	35

PORCELAIN SCREW RING RECEPTACLES

Keyless—Deep Back

660 Watts — 250 Volts

No. 61988

Length of back, $1\frac{1}{8}$ inches. Punch required, $1\frac{1}{2}$ inches.

Bronze screws are used for holding metal parts in complete assembly and assuring long life.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
61988	Screw Terminals	25	100	22

P&S WIRING DEVICES

ONE-PIECE PORCELAIN SIGN AND FIXTURE RECEPTACLES

No. 54

Edison Base

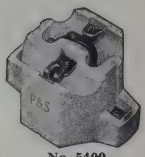
Two mounting screws, screw terminals. Length of back above receptacle, $1\frac{7}{16}$ inches. Punch required, $1\frac{3}{8}$ inches.

660 Watts, 600 Volts

Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
54	$1\frac{13}{16}$	10	100	29

Edison Base—Clip Terminals

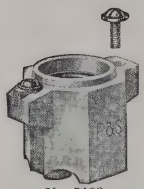
Two mounting screws, clip terminals. Length of back, $1\frac{7}{16}$ inches. Punch required, $1\frac{3}{8}$ inches.



No. 5400

660 Watts, 250 Volts

Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
5400	$1\frac{13}{16}$	10	100	24



No. 5403

Edison Base

With one spring stud and screw, screw terminals. Length of back, $1\frac{7}{16}$ inches. Punch required, $1\frac{3}{8}$ inches.

660 Watts, 250 Volts
With Screw Terminals

Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
5403	$1\frac{13}{16}$	10	100	24

Medium Base

660 Watts, 250 Volts

Has four mounting screws—two mounting screws may be used to hold a reflector, the other two the receptacle.

Length of back, $1\frac{7}{16}$ inches. Punch required, $1\frac{3}{8}$ inches. Screw spacing, $1\frac{13}{16}$ inches.

No. 5410

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.
5410	Screw Terminals	25	100	24

Intermediate Base

Two mounting screws; screw terminals. Length of back, $1\frac{3}{8}$ inches. Punch required 1 inch.

No. 6054

75 Watts, 250 Volts

Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
6054	$1\frac{3}{8}$	25	100	17

Candelabra Base for Indoor Use

Length of back, $\frac{15}{16}$-inch. Punch required, $\frac{23}{32}$-inch.

No. 677

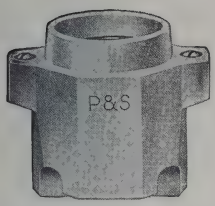
75 Watts, 250 Volts

Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
677	$1\frac{3}{16}$	10	100	8

P&S WIRING DEVICES

MOGUL RECEPTACLES

1500 Watts, 600 Volts



For Sign Work and Conduit Boxes

Punch required is 2 3/16 inches in diameter. Supporting screws are spaced 2¾ inches on centers.

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.
418	5	100	82

MOGUL CLEAT RECEPTACLE

1500 Watts, 250 Volts

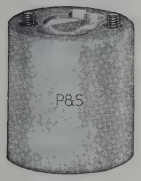
For Open or Concealed Wiring

Diameter of base, 2⅝ inches. Supporting screws are spaced 2 inches on centers.

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.
516	10	50	38

MOGUL SOCKET BODIES

1500 Watts, 600 Volts



No. S-54

Mogul Socket Bodies

Diameter, 2 3/16 inches. Height, No. S-53, 3¼ inches; No. S-54, 2½ inches. With lamp grip.

Two-Piece Body

Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
S-53	1½	5	50	42

One-Piece Body

S-54	1½	5	50	29

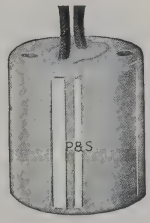
Mogul Socket Body

No. S-56 supplied with 15-inch slow burning triple braid No. 14 wires. Height, 2½ inches. Screws spaced 1½ inches on centers.

One-Piece Body with Wires

With Lamp Grip

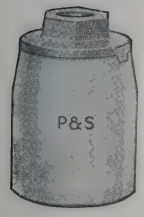
Cat. No.	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.
S-56	2 5/16	5	50	42



No. S-56

COMPLETE MOGUL SOCKETS

1500 Watts, 600 Volts



No. 1553

Sockets are complete with aluminum finished cast iron caps. These sockets are especially adapted for reflector and commercial use.

With ⅜-Inch Cap

Cat. No.	Height Inches	Diam. Inches	Carton	Std. Pkg.	Pkg. Wt.
1553	3 3/16	2⅛	10	50	31

With ½-Inch Cap

1554	3 3/16	2⅛	10	50	33

Body Only

S1514	2 5/16	2⅛	10	50	27

PAULDING WIRING DEVICES

PORCELAIN RECEPTACLES

With Shadeholder Ring

No. 1622

No. 1619A1

No. 1620

Keyless—660 Watts, 250 Volts

Cat. No.	Description	Std. Pkg.	Pkg. Wt.
1622	For 3¼ inch Box	50	26
1623	For 4 inch Box	50	35
1625	For 3¼ and 4 inch Box	50	38

Pull Chain—250 Watts, 250 Volts

1619A1	Chain and Cord, 4 inch Box	50	40
1619A2	Chain and Ins., 4 inch Box	50	40
1621A1	Chain and Cord, 3¼ inch Box	50	30
1621A2	Chain and Ins., 3¼ inch Box	50	30
1629A1	Chain and Cord, 3¼ and 4 inch Box	50	40
1629A2	Chain and Ins., 3¼ and 4 inch Box	50	40

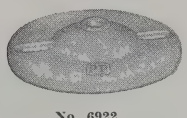
Pull Chain and Convenience Outlet
250 Watts, 250 Volts
Outlet, 15 Amp., 125 Volts, 10 Amp., 250 Volts

1620	Chain and Cord, 3¼ inch Box	50	36
1624	Chain and Cord, 4 inch Box	50	42

All above, one in a carton.

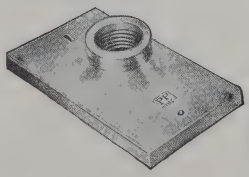
PP ALL-PORCELAIN PRODUCTS

OVERSIZE COVERS AND RECEPTACLES



No. 6922

No. 8680



No. 8388 Ready Receptacles

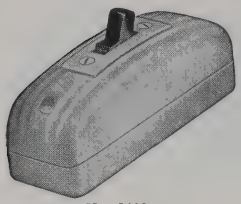
No. 8793-C

The round covers may be used with either 3¼ or 4-inch boxes.

Cat. No.	Description	Std. Pkg.	Wt. Lb. Per 100	Price Per 100
6922	Pendent	50	65	$25.10
8680	Keyless Receptacle	50	90	53.30
8793-C	Pull Receptacle	50	90	85.10
8388	Ready Receptacle, Keyless	50	80	53.30

PORCELAIN PRODUCTS SURFOLETS

SURFACE WIRING DEVICES



No. 8410

TUMBLER SWITCHES

10 Amps., 125 Volts
5 Amps., 250 Volts

Cat. No.	Car-ton	Std. Pkg.	Price Per 100
Single-Pole			
8410	10	50	**$147.10**
Three-Way			
8415	10	50	**172.50**

Shipping weight per 100 pieces, 118 lbs.

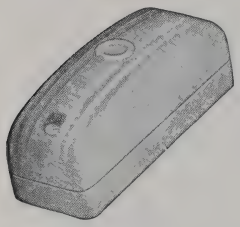
DUPLEX FLUSH RECEPTACLE

15 Amps., 125 Volts
10 Amps., 250 Volts

Cat. No.	Car-ton	Std. Pkg.	Price Per 100
8430	10	50	**$117.50**

Shipping weight per 100 pieces, 118 lbs.

No. 8430



No. 8440

JUNCTION BOX AND CORD ROSETTE

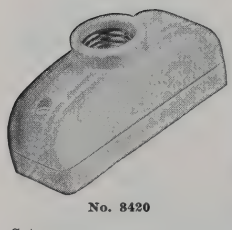
660 Watts, 250 Volts

Cat. No.	Car-ton	Std. Pkg.	Price Per 100
Pendent Cord Rosette			
8440	10	50	**$123.50**
Blank Junction Box			
8450	10	50	**97.10**

Shipping weight per 100 pieces, 100 lbs.

RECEPTACLES

250 Watts, 250 Volts



No. 8420

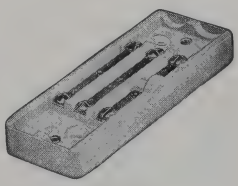
No. 8460

Cat. No.	Description	Car-ton	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
8420	Keyless	10	50	110	**$103.20**
8460	Pull Receptacle	10	50	120	**203.10**

UNIBASE ONLY

Cat. No.	Car-ton	Price Per 100
8400	20	**$50.10**

Standard package, 100; shipping weight, 50 lbs.



No. 8400

McGILL LEVOLIER SWITCHES

Approved by Underwriters' Laboratories, Inc.

LEVER OPERATED—SINGLE CIRCUIT

6 Amp. "T," 125 Volt—3 Amp., 250 Volt

No. 41

Only 5/8 inch thick the No. 41 is one of the smallest 6 amp. 250 volt pull switches made, yet has unusual capacity, dependability and long life. Single pole, double break mechanism, equipped with 6 ft. cord or plain lever control. Standard finishes: brass, dark bronze, and burnished nickel.

Widely adaptable for canopy or conduit box mounting for individual control of incandescent or fluorescent lighting, F.H.P. motors, etc.

Cat. No.	Stem, In. Diam.	Stem, In. Length	Car-ton	Std. Pkg.	Pkg. Wt.	Price Per 100
41	7/16	1/8	10	100	10	**$110.00**
41PL	No. 41 with Plain Lever, no chain					**104.00**
42	7/16	3/8	10	100	11	**116.00**
43	7/16	3/4	10	100	11	**116.00**

LEVER OPERATED—SINGLE CIRCUIT

6 Amp. "T," 125 Volt—3 Amp., 250 Volt

Can be used on any chain fixture, old or new, and between any two links of chain. When installed in fixtures that have been previously hung it fits in place of one of the chain links without altering the length of the fixture or necessitating rewiring or splicing of lead wires.

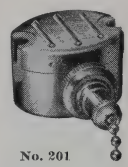
No. 41 Link

The Levolier link switch consists of a standard Levolier pull switch, and Levolier link.

Cat. No.	Description	Car-ton	Std. Pkg.	Pkg. Wt.	Price Per 100
39	No. 41 with Mounting Link	10	100	13	**$110.00**

LEVER OPERATED—TWO CIRCUIT

3 Amp., 125 Volt—1 Amp., 250 Volt



No. 201

Designed to operate with three-light lamps. When installed in the canopy of a fixture using the three-light lamp, it operates as follows: First pull turns on smaller filament, second pull turns off small filament and turns on the larger filament, third pull turns both filaments on and fourth turns both off. Standard finishes, brass, dark bronze and burnished nickel. Size 7/8 x 1 3/8 inches.

Cat. No.	Stem, In. Diam.	Stem, In. Length	Car-ton	Std. Pkg.	Pkg. Wt.	Price Per 100
201	7/16	3/8	10	100	11	**$115.00**
202	7/16	5/8	10	100	11	**120.00**
203	7/16	3/4	10	100	12	**120.00**

LEVER OPERATED—THREE WAY

3 Amp., 125 Volt—1 Amp., 250 Volt

Permits the control of one or more lights from two different points. Also used as reversing switch and for fractional horse power motors. Standard finishes, brass, dark bronze, burnished nickel. Size 7/8x1 3/8 inches.

No. 301

Cat. No.	Stem, In. Diam.	Stem, In. Length	Car-ton	Std. Pkg.	Pkg. Wt.	Price Per 100
301	7/16	3/8	10	100	12	**$126.00**
302	7/16	5/8	10	100	12	**132.00**
303	7/16	3/4	10	100	13	**132.00**

McGILL LEVOLIER SWITCHES

Approved by Underwriters' Laboratories, Inc.

LEVER OPERATED—SINGLE CIRCUIT

10 Amp. "T," 125 Volt—5 Amp., 250 Volt

No. 1010

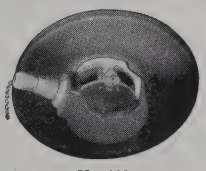
Smallest 10 Amp. pull switch made yet the No. 1010 has the ability to withstand the same loads as switches much larger in size. Single pole double break mechanism with 6 ft. cord and bell. For individual control of high wattage lamps and fluorescent banks up to six 4-tube fixtures.

Standard finishes, brass, dark bronze and burnished nickle.

Cat. No.	Stem, In. Diam.	Stem, In. Length	Carton	Std. Pkg.	Pkg. Wt.	Price Per 100
1010	½	⅝	10	100	20	**$196.00**
1010L	½	⅝	10	100	20	**202.00**
1010PL	No. 1010 with Plain Lever —No Chain		10	100	20	**190.00**
1039	With Mounting Link ..		10	100	26	**196.00**

SWITCH HOUSING PLASTIC OUTLET BOX COVER

With No. 1010 Switch



No. 109

No. 109 outlet box cover provides a cover and switch assembly for ceiling or wall mounted outlet boxes. Provides an inconspicuous, well-designed housing to replace large, unsightly switches. Ideal to provide power-saving individual control of banks of lights up to 1250 watts. Housing is molded brown phenolic plastic with recess to accommodate No. 1010 Levolier switch. Molded with partial holes which can be punched out to fit 3- or 4-inch outlet boxes.

No. 109-X is the same as above but without switch. May be used with other Levolier switches including Nos. 42, 202, 302 and 1020S.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
109	With No. 1010 Switch	20	5½	**$2.50**
109-X	Same, without Switch	20	1	**.50**

LEVER OPERATED—TWO CIRCUIT

10 Amp. "T," 125 Volt—5 Amp., 250 Volt

No. 1020-S

Sturdy single pole 10 Amp. switch to control double filament, three light lamps. Also suitable for fluorescent groups where it is desirable to light one or more tubes in individual fixtures. Circuit control sequence: 1, 2, 1 and 2, off. Equipped with 6 ft. cord and bell. Standard finishes, brass, dark bronze, and burnished nickle. Size ⅞ x 1¾ inches.

Cat. No.	Stem, In. Diam.	Stem, In. Length	Carton	Std. Pkg.	Pkg. Wt.	Price Per 100
1020S	7/16	⅜	10	100	13	**$207.00**
1020L	7/16	¾	10	100	13	**212.00**
1020PL	No. 1020S with Plain Lever— No Chain ..		10	100	13	**202.00**

McGILL LEVOLIER SWITCHES

Approved by Underwriters' Laboratories, Inc.

LEVOLIER SPECIAL USE SWITCHES

For Multiple Circuits

No. 400

The following are typical of the many Special Use Switches built by McGill for controlling all types of circuits. Others can be designed readily with the McGill method of assembling interchangeable component parts. Rated from 4 to 10 Amps. 250 volt, these switches are especially serviceable for ventilating fans, circulators and fractional horse power motors. Overall sizes are small.

Cat. No.	Stem, Ins. Dia.	Stem, Ins. Length	Amperes 125V	Amperes 250V	Std. Pkg.	Pkg. Wt.	Price Per 100
			1-2-off, D.P., 2 Circuit				
206	½	⅜	6	3	....	15	**$230.00**
			1-off-2-off, D.P., 2 Circuit				
265	½	⅜	6	3	....	15	**218.00**
			1-off-2-off, S.P., 2 Circuit				
272	½	⅜	10	5	....	15	**218.00**
			off-on, D.P., 1 Circuit				
276	½	⅜	6	3	....	15	**218.00**
			1-off-2-off, D.P., 2 Circuit				
282	½	⅜	6	3	....	15	**230.00**
			1-2-3-off, S.P., 3 Circuit				
400	7/16	⅜	4	2	....	15	**150.00**
			1-off-2-off, S.P., 2 Circuit				
402	7/16	⅜	4	2	....	13	**144.00**
			1-2-3-4-on off, S.P., 4 Circuit				
404	7/16	⅜	4	2	....	13	**150.00**
			1-2-off, S.P., 2 Circuit				
406	7/16	⅜	4	2	....	13	**144.00**
			1-2-off, D.P., 2 Circuit				
450	½	11/16	6	2	....	15	**230.00**
			1-2-3-off, D.P., 3 Circuit				
473	½	⅜	6	3	....	15	**299.00**
			fwd.-off-rev.-off, 2 Circuit				
480	½	⅜	6	3	....	15	**230.00**

No. 1080 Plastic Housing for above Special Use Switches Nos. 206, 265, 272, 276, 282, 450, and 480 is furnished at **$30.00** per 100 extra.

Brass Caps and Casings for above Special Use Switches Nos. 400, 402, 404, and 406 furnished at **$30.00** per 100 extra.

Caps and Casings for above Special Use Switches No. 473 not available.

PULL CHAIN—SINGLE CIRCUIT

3 Amp. "T," 125 Volt—1 Amp., 250 Volt

Especially durable, yet inexpensive 3 Amp., 250 Volt switch with single pole, double break mechanism, enclosed in plastic case. 6 in. wire leads secured to terminals by pressure connections — no soldered terminals. Equipped with 6 ft. cord and bell. Size 1 x 1¼ inches.

No. 21

Cat. No.	Stem, Inches Diam.	Stem, Inches Length	Carton	Std. Pkg.	Pkg. Wt.	Price Per 100
21	13/32	7/16	10	100	7	**$72.00**

McGILL LEVOLIER SWITCHES

Approved by Underwriters' Laboratories, Inc.

LEVER OPERATED—SINGLE CIRCUIT

6 Amp. "T," 125 Volt—3 Amp., 250 Volt

No. 71

The No. 71 is the thinnest 6 Amp., 250 Volt "T" rated switch made — only $\frac{1}{32}$ inch thick. Plastic cased with 6-inch wire leads, it is built with the famous Levolier mechanism for dependability and long life. Size $\frac{1}{32}$ x $1\frac{9}{32}$ inches.

Ideal for small, and especially thin sectional fixture canopies.

Cat. No.	Stem, Diam.	Stem, Length	Carton	Std. Pkg.	Pkg. Wt.	Price Per 100
71	$\frac{1}{32}$	$\frac{9}{32}$	10	100	8	**$96.00**

SINGLE CIRCUIT—TWO CIRCUIT—THREE WAY

6 Amp., 125 Volt—3 Amp., 250 Volt

No. 25

Practical but small plastic cased toggle switches with wire leads or soldering lugs. Dust and vibration proof with single pole, double break mechanism. No. 25 is single circuit for individual control of lights in such applications as Pullman cars, busses, trailers, lamps, appliances, small tools, fractional horse power motors, etc. "T" rated. Size ½ x ½ x 1 inch.

No. 27 is three way for control of one or more lights from two points. No. 28 for controlling either of two circuits. No off position.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Per 100
25	Single Circuit, Wire Leads	10	100	5	**$72.00**
25-L	Single Circuit, with sold. Lugs	10	100	4	**72.00**
27	Three-Way, Wire Leads	10	100	5	**92.00**
27-L	Three Way, w/sold. Lugs	10	100	4	**80.00**
28	Two Circuit, Wire Leads	10	100	5	**92.00**
28-L	Two Circuit, w/sold. Lugs	10	100	4	**80.00**

All stem diameters $\frac{1}{32}$", length ¼".

No. 121

LEVOLIER FIXTURE SOCKETS

Approved by Underwriters' Laboratories, Inc.

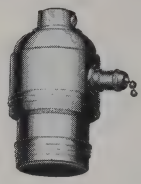
660 Watts, 250 Volts

For brackets and chandeliers using candles, husks, and other types of socket covers. The porcelain lever serves as a finishing knob and does away with unsightly black keys, slots in husks, or chains coming out of the side.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Per 100
103	⅝" Nipple, Brass or Nickle Lever	10	100	13	**$110.00**
119	⅝" Nipple, Plain Lever	10	100	12	**110.00**
121	⅝" Nipple, Porcelain Lever	10	100	15	**122.00**
122	⅜" Nipple, Porcelain Lever	10	100	15	**115.00**
127	Square Shank, Plain Lever	10	100	14	**110.00**
128	Porcelain Knob, White	10	100	....	**12.00**

McGILL INDUSTRIAL SOCKET

LEVOLIER 4100 SERIES SOCKET



No. 4100

The No. 4100 Industrial Socket puts the dependability of a Levolier Switch into a 660-watt, 250-volt socket. Sturdily constructed throughout with a screw shell .006-inch heavier than standard practice — for added strength at lamp base.

Double thickness wall section locked together with threaded collar prevents cap and casing separation with actuating pull.

Universal lever action insures convenient operation of switch mechanism. Brushed brass lacquered finish, and 6-inch bead chain and bell.

Description	With ⅛-Inch Cap Cat. No.	With ⅛-Inch Cap Price Per 100	With Pendant Cap Cat. No.	With Pendant Cap Price Per 100	With ⅝-Inch Cap Cat. No.	With ⅝-Inch Cap Price Per 100
Pull Chain	**4100**	**$132.00**	**4101**	**$123.80**	**4103**	**$151.30**
Fibre Lever	**4100FL**	**132.00**	**4101FL**	**123.80**	**4103FL**	**151.30**
Plain Brass Lever	**4100PL**	**127.60**	**4101PL**	**119.40**	**4103PL**	**146.90**
With Nipple:						
Chain			**4102**	**137.50**		
Fibre Lever			**4102FL**	**137.50**		
Plain Brass Lever			**4102PL**	**133.10**		

All above packed 25 in a carton, standard package, 100; shipping weight, 20 lbs.

LEVOLIER VERTICAL PULL ADAPTOR

FOR LEVOLIER SWITCHES

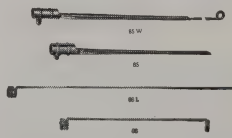
With $\frac{7}{16}$-inch Stem Diameter

No. 84 attachment adapts Levolier switches to vertical or straight down mounting in odd shaped or close to the ceiling canopies. It has a short extension arm that clips to switch lever and is aligned by slot in guide arm that is tightened under mounting nut. Adaptor can be installed in a few seconds.

No. 84

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
84	10	100	2	**$25.00**

LEVOLIER EXTENSION ARMS



Constant pulling of lamp cords that rub against reflectors, shades, and bowls, causes needless wear, expense, fixture swaying and risk. The arm slips over the Levolier switch lever, cord is inserted through end hole and knotted to hold. No. 85-W can be extended for use with 18–22-in. and larger basin fixtures. Standard or special finished to match all Levolier switches.

Cat. No.	Overall Length Inches	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
85	5¼	10	100	3	**$25.00**
85-W	9	10	100	4	**30.00**
86*	5	10	100	2	**14.00**
86-L*	9	10	100	3	**21.00**

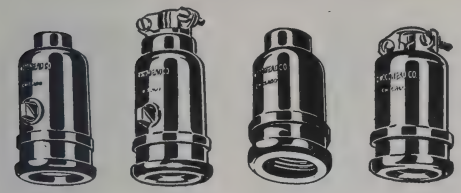
*For No. 71 switch only.

PRoTEX RUBBER-COVERED SOCKETS

Daniel Woodhead Company Products

660 Watts, 250 Volts

PUSH AND KEYLESS TYPES



No. 700 No. 705 No. 710 No. 717

Description	PUSH TYPE Cat. No.	Pkg. Wt.	Price Each	KEYLESS TYPE Cat. No.	Pkg. Wt.	Price Each
Pendant with 7/16" Cord Hole	700	27	$1.60	710	22	$0.80
With 1/8-inch Cap	701	29	1.80	711	23	1.00
With 1/4-inch Cap	702	29	1.80	712	23	1.00
With 3/8-inch Cap	703	31	1.90	713	25	1.20
With 1/2-inch Cap	704	32	1.90	714	26	1.20
Pendant with 1/8" to 1/2" Cord Grip	705	38	2.20	717	33	1.15

Carton, 10; standard package, 100.

WATERTITE WEATHERPROOF SOCKETS

Daniel Woodhead Company Products

660 Watts, 600 Volts

No. 600 No. 601

Waterproof and non-breakable. May be used under water indefinitely without injury or short-circuit in socket or lamp. Meets all requirements for outside use. Fits standard sign receptacle cover.

Standard weatherproof shade holder or lamp guard will fit Watertite socket.

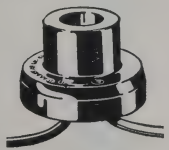
Cat. No.	Diam. Cover	Screw Spacing	Carton	Std. Pkg.	Pkg. Wt.	Price Each
600	------	------	10	100	20	$0.60
		With Outlet Box Cover				
601	3½	2¾	10	100	54	.80
602	4⅛	3½	10	100	55	.80

Leads consist of all rubber No. 14 stranded wire, 6 inches long. For leads longer than 6 inches add to above list prices for each additional lineal foot desired, $.075.

WATERTITE RUBBER LAMP RECEPTACLES

Daniel Woodhead Company Products

For temporary lighting where conduit is not used. Standard Edison base socket that gives watertight seal due to rubber construction. Wired both side and back. Screw spacing on 2 inch centers.



No. 604

Cat. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
603	Side Wired	10	100	31	$1.20
604	Back Wired	10	100	31	1.20

SAFEWAY (Inner-Lock) RUBBER DUPLEX RECEPTACLES

Daniel Woodhead Company Products

10 Amp., 250 Volt—15 Amp., 125 Volt

No. 800

Designed for use where a positive grip is necessary. The contacts will withstand a direct pull up to 15 pounds before releasing the engaged plug blades. These receptacles will withstand considerable abuse without showing signs of wear or weakness. Available in two styles. Parallel and 2-wire polarized.

Cat. No.	Type	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
800	Parallel	5	25	8	$1.40
801	2 Wire Polarized	5	25	8	1.50

OUTLET BOX RECEPTACLES WITH COVERS

Cat. No.	Size	Receptacles	Carton	Std. Pkg.	Pkg. Wt.	Price Each
802	3¼	Parallel	5	25	13	$1.50
803	3¼	2 Wire Polarized	5	25	13	1.60
804	4	Parallel	5	25	16	1.50
805	4	2 Wire Polarized	5	25	16	1.60

SAFEWAY AND PRoTEX ALL-RUBBER WIRING DEVICES

SCREW BASE PLUG, TWIN SOCKETS AND DOUBLE RECEPTACLES

No. 1535

No. 720

No. 1536

No. 1537

Unbreakable rubber construction assures long life. Makes additional socket or receptacle available for temporary service jobs.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1535	Screw Base Plug	10	100	18	$2.20
720	Double Socket	5	50	20	2.70
1536	Double Parallel Receptacle	5	50	20	3.25
1537	Combination Socket and Receptacle	5	50	20	3.10

SAFEWAY RUBBER COVERED PLUGS

Daniel Woodhead Company Products

Approved by Underwriters

Safeway Rubber Covered Plugs are built for heavy duty industrial and railroad service. The brass blades, which are mounted on approved insulating material, can be removed from the rubber body. These plugs are practically non-breakable as well as being safe to handle.

2-WIRE CAPS

15 Amp., 125 Volts; 10 Amp., 250 Volts

No. 1400

No. 1401

No. 1402

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1400	2-Wire Cap	10	100	13	$0.55
1401	2-Wire Tandem	10	100	13	.65
1402	2-Wire Polarity	10	100	13	.65

2-WIRE CAPS WITH CORD GRIP

15 Amp., 125 Volts; 10 Amp., 250 Volts

No. 1404

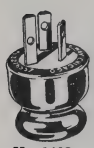
No. 1405

No. 1406

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1404	2-Wire Cap Cord Grip	10	100	18	$0.90
1405	2-Wire Tandem Cord Grip	10	100	18	1.00
1406	2-Wire Polarity Cord Grip	10	100	18	1.00

3-WIRE CAPS—GROUNDED

15 Amp., 125 Volts; 10 Amp., 250 Volts



No. 1403

No. 1407

3-Wire Grounded

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1403	10	100	13	$0.75

3-Wire Grounded Cord Grip

1407	10	100	19	1.10

2-WIRE SEPARABLE SWIVEL TYPE

15 Amp., 125 Volts
10 Amp., 250 Volts

Cat. No.	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1408	10	100	25	$2.20

All above caps, except those with cord grip, have 1/8-inch cord hole. Can be had with cord holes 1/4 to 5/8-inch on specifications. Caps with cord grip have 3/4-inch cord hole.

Assortment of any Safeway Cap or Cord Connector in carton lots permitted to make standard package.

PRoTEX RUBBER COVERED PLUGS

Daniel Woodhead Company Products

JUNIOR AND MIDGET TYPES

15 Amp., 125 Volts; 10 Amp., 250 Volts

No. 1422

No. 1420

Cat. No.	Cord Hole	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
1420	7/32	10	100	8	$0.25
1421	7/32	10	100	8	.25
1422	1/4	10	100	4	.25

SAFEWAY RUBBER CORD CONNECTORS

Daniel Woodhead Company Products

2-WIRE BODY AND CAP

15 Amp., 125 Volts; 10 Amp., 250 Volts

No. 1500

No. 1504

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1500	Parallel Body only	10	100	13	$0.90
1504	Parallel Body and Cap	5	50	13	1.45
1501	Polarity Body only	10	100	13	1.00
1505	Polarity Body and Cap	5	50	13	1.65

With Cord Grip

No. 1502

No. 1506

1502	Parallel Body and Grip	10	100	18	$1.25
1506	Parallel Body, Cap and Grip	5	50	18	2.15
1503	Polarity Body and Grip	10	100	18	1.35
1507	Palarity Body, Cap and Grip	5	50	18	2.35
1508	3-Wire Body and Grip	10	100	18	1.70
1509	3-Wire Body, Cap and Grip	5	50	18	2.80

SAFEWAY WEATHERPROOF RUBBER PLUG

Daniel Woodhead Company Products

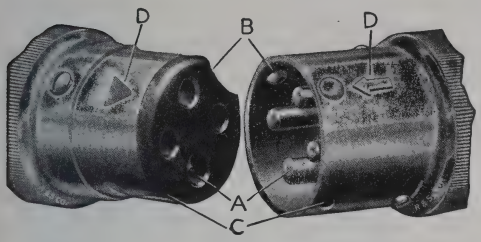
Plug body is made of a high quality oil and heat-resisting rubber compound, molded into a nickel-plated screw base with No. 14 stranded, all-rubber leads, so vulcanized as to form a one-piece, waterproof and non-breakable attachment plug, with 6-inch leads.

For leads longer than 6 inches add to the list price for each additional lineal foot, $.075.

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
1409	10	100	15	$0.95

R & S EVER-LOK RECEPTACLES PLUGS AND CORD CONNECTORS

GENERAL DESCRIPTION



One Large and 3 Smaller Contacts

The large (grounded) contact A will not fit into any but the one large hole A. The three smaller contacts fit into their corresponding holes. The staggered lugs B and C in the plug shell, will fit only into the corresponding staggered grooves in the shell of the connector or receptacle. (B to B only and C to C only.)

The interiors of molded bakelite are grooved to fit upset lugs on the shells so that improper assembly or alignment of the interior is impossible.

Terminals of the 4-pole devices are marked X, Y, Z, and G (ground). Terminals of 3-pole devices are marked 1, 2, and G. These markings maintain identity of polarity throughout.

Double Locking and Balanced Support

The outer shell of the plug floats on the inner shell and turns within the limits allowed by 2 screws in 2 slots on opposite sides of the shell. As the plug is inserted in a connector or receptacle, the lugs on outer shell ride diagonally down into the funnel-shaped grooves until they strike the bottom. The outer shell automatically turns on its axis by means of a spring in its base, and the lugs snap into position.

This double locking arrangement (on opposite sides of the shell) provides balanced support and prevents poor alignment.

Locks in Place

To unlock, it is necessary to grasp the plug firmly and give it a short reverse twist to bring the lugs back to where they will pull out of the grooves. Outer shoulders are knurled to facilitate this action, but the lock is positive and the plug cannot be withdrawn without first giving it this reverse twist.

Positive Grounding

Casings are positively grounded by double phosphor bronze springs. Equipment grounding is secured by a separate set of contacts which "make" first and "break" last (as required by Underwriters' Laboratories).

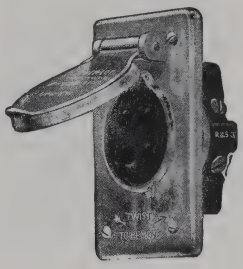
Unit Assembly

Contacts and terminals are permanently assembled in bakelite body permitting removal of interior only as a unit for wiring. All connections are entirely enclosed, thus obviating accidental short circuits and tampering by inexperienced persons.

R & S EVER-LOK CONDUIT BOX TYPE RECEPTACLES

FOR TYPE FS AND SIMILAR CONDUIT FITTINGS

Two, Three and Four Pole—Polarized



No. 8004

No. 8138

Covers are $4\frac{5}{16}$ x $2\frac{13}{16}$ inches, struck up steel .063-inch. With four retained cadmium plated screws for mounting on box.

Standard finish, cadmium plated. Other finishes extra.

Can also be furnished with cast iron box, corrosion resisting finish No. 8009 for surface mounting at $1.25 list additional. Maximum conduit 1-inch. Specify size and location when ordering.

Receptacle and Cover

Style Wire	Style Pole	With Spring Hinged Door Cat. No.	With Spring Hinged Door List Each	Without Door Cat. No.	Without Door List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.				
2	2	**8002**	**$3.05**	**8133**	**$2.85**	8012
2	3	**8003**	**3.15**	**8134**	**2.95**	8013
3	4	**8008**	**3.25**	**8135**	**3.05**	8018
		20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.				
2	2	**8006**	**3.20**	**8136**	**3.00**	8016
2	3	**8005**	**3.30**	**8137**	**3.10**	8015
3	4	**8004**	**3.40**	**8138**	**3.20**	8014

Prices do not include plugs. They are listed separately.

For mounting to standard single gang switch box with ¾-inch raised cover, specify Adapter Plate No. 8091 listed below.

No. 8091

ADAPTER-SUB-PLATE

The addition of this adapter sub-plate will permit the use of Ever-Lok conduit box type receptacles, listed above, in any standard switch box or outlet box with raised cover.

Description	Cat. No.	List Each
Adapter Sub-Plate	**8091**	**$0.60**

R & S EVER-LOK CONDUIT BOX TYPE RECEPTACLES

MOUNTED ON SINGLE OR GANG TYPE FS CONDUIT BOXES

Two, Three and Four-Pole—Polarized

No. 8083

Covers standard finish, cadmium plated. Other finishes extra.

Cast iron boxes, corrosion resisting finish. Maximum conduit 1-inch. Single gang 4-way; multi-gang, one outlet on one side, one per gang on opposite side and one on each end. Specify size and location when ordering.

Receptacle, Box and Cover with Spring Hinged Door

Style Wire	Style Pole	Single Gang Cat. No.	Single Gang List Each	Double Gang Cat. No.	Double Gang List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.				
2	2	**8082**	**$4.05**	**8127**	**$8.10**	8012
2	3	**8083**	**4.15**	**8128**	**8.30**	8013
3	4	**8084**	**4.25**	**8129**	**8.50**	8018
		Three Gang		Four Gang		
2	2	**8159**	**12.15**	**8171**	**16.20**	8012
2	3	**8160**	**12.45**	**8172**	**16.60**	8013
3	4	**8161**	**12.75**	**8173**	**17.00**	8018
		20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.				
		Single Gang		Double Gang		
2	2	**8029**	**4.20**	**8130**	**8.40**	8016
2	3	**8030**	**4.30**	**8131**	**8.60**	8015
3	4	**8031**	**4.40**	**8132**	**8.80**	8014
		Three Gang		Four Gang		
2	2	**8162**	**12.60**	**8174**	**16.80**	8016
2	3	**8163**	**12.90**	**8175**	**17.20**	8015
3	4	**8164**	**13.20**	**8176**	**17.60**	8014

Prices do not include plugs. They are listed separately.

FOR TYPE W AND SIMILAR CONDUIT FITTINGS

Two, Three and Four-Pole—Polarized

Covers are flanged to fit any Type W and similar conduit fittings. Provided with four screw-hole knockouts. Standard finish, cadmium plated. Other finishes extra.

Can also be furnished with cast iron box, corrosion resisting finish, No. 8039 at **$1.00** list additional.

No. 8033

Receptacle and Cover

Style Wire	Style Pole	With Spring Hinged Door Cat. No.	With Spring Hinged Door List Each	Without Hinged Door Cat. No.	Without Hinged Door List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.				
2	2	**8032**	**$3.05**	**8139**	**$2.85**	8012
2	3	**8033**	**3.15**	**8140**	**2.95**	8013
3	4	**8034**	**3.25**	**8141**	**3.05**	8018

Prices do not include plugs. They are listed separately.

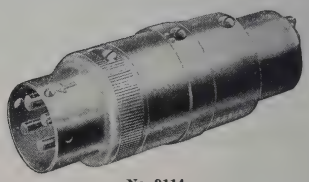
R & S EVER-LOK FUSIBLE PLUGS AND CONNECTORS

Four Pole—Polarized

20 Amp., 250 Volts D.C.—30 Amp., 125 Volts D.C.

A convenience for protection of branch circuit extensions or for motor overload protection of small motors. For use in conjunction with Ever-Lok receptacles and connectors.

STANDARD N.E.C. FUSIBLE TYPE

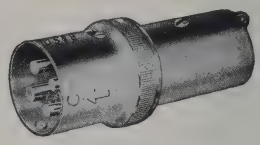


No. 9114

Safety bakelite holder for Standard N.E.C. fuses or Fusetrons.

Description	Cat. No.	List Each
3 fused and 1 grounded pole.....	**9114**	**$8.00**

MIDGET FUSIBLE TYPE



No. 9144

For Midget fuses or Midget fusetrons.

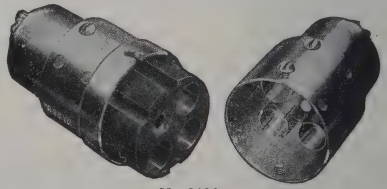
Description	Cat. No.	List Each
3 fused and 1 grounded pole.....	**9144**	**$4.50**

Enclosure—Steel. Cadmium plated finish. Maximum cable, ⅝-inch diameter.

STANDARD N.E.C. FUSIBLE CONNECTORS

Four Pole—Polarized

20 Amp., 250 Volts D.C.—30 Amp., 125 Volts D.C.



No. 9124

Complete separable connector with safety bakelite holder for N.E.C. fuses. For disconnect use only.

Description	Cat. No.	List Each
3 fused and 1 grounded pole.....	**9124**	**$7.50**

Enclosure—Steel. Cadmium plated finish. Maximum cable, ⅝-inch diameter.

Fuses are not included.

R & S EVER-LOK FLUSH TYPE RECEPTACLES

FOR STANDARD OUTLET BOX ¾-INCH RAISED COVERS

Two, Three and Four Pole—Polarized

WITH DOUBLE HINGED DOOR

No. 8043

*Requires standard double gang outlet box raised covers. †Requires standard three-gang outlet box raised covers. Can also be furnished in any number of gangs. Prices on application.

Plates: Brass, brushed finish standard. Other finishes extra.

Prices do not include plugs; they are listed separately.

Receptacles and Plate

Style Wire	Style Pole	Single Gang Cat. No.	Single Gang List Each	Double Gang Cat. No.	Double Gang List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.				
2	2	8042	$4.70	†8066	$9.40	8012
2	3	8043	4.80	†8067	9.60	8013
3	4	8044	4.90	†8068	9.80	8018
		20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.				
2	2	8048	5.70	†8102	11.40	8016
2	3	8049	5.80	†8103	11.60	8015
3	4	8050	5.90	†8104	11.80	8014

WITHOUT DOOR

For Standard Outlet Box Raised Cover

*Requires standard double gang outlet box raised covers. †Requires standard three gang outlet raised covers. Can also be furnished in any number of gangs. Prices on application.

Plates: Brass, brushed finish standard. Other finishes extra.

Prices do not include plugs; they are listed separately.

No. 8070

Receptacles and Plate

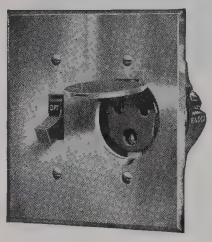
Style Wire	Style Pole	Single Gang Cat. No.	Single Gang List Each	Double Gang Cat. No.	Double Gang List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.				
2	2	8069	$3.30	*8062	$6.60	8012
2	3	8070	3.40	*8063	6.80	8013
3	4	8071	3.50	*8064	7.00	8018
		20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.				
2	2	8019	4.30	†8055	8.60	8016
2	3	8020	4.40	†8056	8.80	8015
3	4	8021	4.50	†8057	9.00	8014

R & S EVER-LOK FLUSH TYPE RECEPTACLES

FOR COMBINATION WITH TOGGLE SWITCH

Two, Three and Four Pole—Polarized

WITH DOUBLE HINGED DOOR



No. 8053

For standard double gang outlet box raised covers.

Plates: Brass, brushed finish standard. Other finishes extra.

Prices do not include switches or plugs; any standard make of toggle switch may be used. Plugs are listed separately.

Receptacle and Plate Without Switch

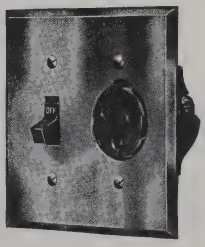
Style Wire	Style Pole	Cat. No.	List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.		
2	2	8052	$8.10	8012
2	3	8053	8.20	8013
3	4	8054	8.30	8018
		20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.		
2	2	8106	9.10	8016
2	3	8107	9.20	8015
3	4	8108	9.30	8014

WITHOUT DOOR

For standard double gang outlet box raised covers.

Plates: Brass, brushed finish standard. Other finishes extra.

Prices do not include switches or plugs; any standard make of toggle switch may be used. Plugs are listed separately.



No. 8113

Receptacle and Plate Without Switch

Style Wire	Style Pole	Cat. No.	List Each	Takes Plug No.
		10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.		
2	2	8112	$6.20	8012
2	3	8113	6.30	8013
3	4	8114	6.40	8018
		20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.		
2	2	8109	7.20	8016
2	3	8110	7.30	8015
3	4	8111	7.40	8014

Other combinations can be made to order. Prices on application.

R & S EVER-LOK PLUGS AND CONNECTORS

EVER-LOK PLUGS—MALE END

Two, Three and Four-Pole—Polarized

No. 8014
With Clamp Type Cable Grip

No. 8153
With Bushing Type Cable Grip

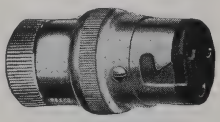
Plugs are entirely steel-clad, cadmium plated finish. They have encased locking spring in machine assembled non-separable housings and are provided with adjustable cord grips preventing strains on connections. Contacts are machined, self-wiping, and self-aligning.

Style Wire	Style Pole	With Clamp Type Cable Grip Cat. No.	List Each	Max. Cable Inches	With Bushing Type Cable Grip Cat. No.	List Each	Max. Cable Inches
10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.							
2	2	8012	$1.95	½	8152	$2.55	13/16
2	3	8013	2.05	½	8153	2.65	13/16
3	4	8018	2.15	½	8158	2.90	13/16
20 Amp., 440 Volts A.C. 30 Amp., 250 Volts D.C.							
2	2	8016	2.10	⅝	8156	2.70	1
2	3	8015	2.20	⅝	8155	2.80	1
3	4	8014	2.30	⅝	8154	2.90	1

EVER-LOK CONNECTORS FEMALE END

Two, Three and Four Pole—Polarized

No. 8024
With Clamp Type Cable Grip



No. 8093
With Bushing Type Cable Grip

Connectors are steel-clad, cadmium plated finish and are provided with adjustable cord-grips preventing strain on connections. Contacts are machined, self-wiping, and self-aligning.

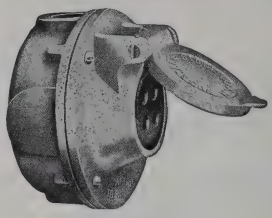
Style Wire	Style Pole	With Clamp Type Cable Grip Cat. No.	List Each	Max. Cable Inches	With Bushing Type Cable Grip Cat. No.	List Each	Max. Cable Inches
10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.							
2	2	8022	$2.90	½	8092	$3.50	13/16
2	3	8023	3.00	½	8093	3.60	13/16
3	4	8028	3.10	½	8098	3.70	13/16
20 Amp., 440 Volts D.C. 30 Amp., 250 Volts D.C.							
2	2	8026	3.25	⅝	8096	3.85	1
2	3	8025	3.25	⅝	8095	3.95	1
3	4	8024	3.45	⅝	8094	4.05	1

R & S EVER-LOK WEATHERPROOF TYPE RECEPTACLES

REGULAR SERVICE—FEMALE RECEPTACLE FOR MALE PLUG

WITH No. 333 JUNCTION BOX

Two, Three and Four Pole—Polarized



No. 8047

Boxes and covers, cast iron corrosion resisting finish. Screw cap and chain, brass. Maximum conduit ¾-inch. Specify size and location when ordering. Prices do not include plugs. They are listed separately.

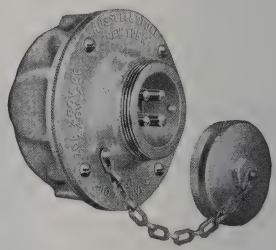
Receptacle, Cover and Box

Style Wire	Style Pole	With Spring Door Cat. No.	List Each	With Screw Cap and Chain Cat. No.	List Each	Takes Plug No.
10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.						
2	2	8035	$5.15	8121	$5.80	8012
2	3	8036	5.25	8122	5.90	8013
3	4	8037	5.35	8123	6.00	8018
20 Amp., 440 Volts A.C.—30 Amp., 250 Volts D.C.						
2	2	8045	5.30	8124	5.95	8016
2	3	8046	5.40	8125	6.05	8015
3	4	8047	5.50	8126	6.15	8014

REVERSE SERVICE—MALE RECEPTACLE FOR FEMALE PLUG

WITH No. 2401 JUNCTION BOX

Two, Three and Four Pole—Polarized



No. 8221

Boxes and covers, cast iron corrosion resisting finish. Screw cap and chain, brass. Maximum conduit 1-inch. Specify size and location when ordering. Prices do not include plugs. They are listed separately.

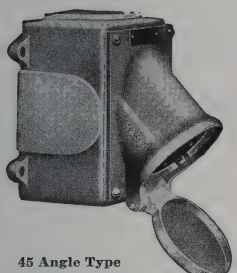
Receptacle, Cover and Box

Style Wire	Style Pole	With Spring Door Cat. No.	List Each	With Screw Cap and Chain Cat. No.	List Each	Takes Plug No.
10 Amp., 250 Volts D.C.—440 Volts A.C. 20 Amp., 125 Volts D.C.						
2	2	8238	$6.80	8216	$7.45	8022
2	3	8239	6.90	8217	7.55	8023
3	4	8240	7.00	8218	7.65	8028
20 Amp., 440 Volts A.C.—30 Amp., 250 Volts D.C.						
3	4	8243	7.50	8221	8.15	8024
2	3	8242	7.40	8220	8.05	8025
2	2	8241	7.30	8219	7.95	8026

R & S EVER-LOK HEAVY SERVICE RECEPTACLES AND PLUGS

WEATHERTIGHT RECEPTACLES

Two, Three and Four Pole—Polarized
30, 60, 100, 200 Amp., 250 Volts D.C.—440 Volts A.C.



45 Angle Type

Box and cover, cast iron corrosion resisting finish. Composition interior.

Fittings marked (*) have no provision for equipment grounding; all others have equipment grounded through separate pole.

Prices do not include plugs. They are listed separately.

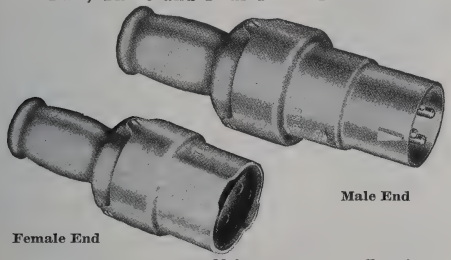
Outlets: Max. 30 and 60 amp. 1½-inch; 100 amp. 2½-inch; 200 amp. 3-inch. Specify size and location when ordering.

Amps.	Style Wire	Style Pole	Cat. No.	List Each	Takes Plug No.
* 30	2	2	**8402**	**$9.00**	8406
30	2	3	**8403**	**10.00**	8407
30	3	4	**8404**	**11.00**	8408
* 60	2	2	**8412**	**14.00**	8416
60	2	3	**8413**	**16.00**	8417
60	3	4	**8414**	**18.00**	8418
*100	2	2	**8422**	**26.00**	8426
100	2	3	**8423**	**28.50**	8427
100	3	4	**8424**	**31.00**	8428
*200	2	2	**8432**	**76.00**	8436
200	2	3	**8433**	**80.00**	8437
200	3	4	**8434**	**84.00**	8438

R & S EVER-LOK HEAVY SERVICE CONNECTORS AND PLUGS

WEATHERTIGHT

30, 60, 100, 200 Amp., 250 Volts D.C.—440 Volts A.C.
Two, Three and Four Pole—Polarized



Male End

Female End

Amps.	Style Wire	Style Pole	Male End Only Cat. No.	Male End Only List Each	Female End Only Cat. No.	Female End Only List Each
* 30	2	2	**8406**	**$12.00**	**8442**	**$12.00**
30	2	3	**8407**	**13.00**	**8443**	**13.00**
30	3	4	**8408**	**14.00**	**8444**	**14.00**
* 60	2	2	**8416**	**18.00**	**8452**	**18.00**
60	2	3	**8417**	**20.00**	**8453**	**20.00**
60	3	4	**8418**	**22.00**	**8454**	**22.00**
*100	2	2	**8426**	**22.00**	**8462**	**22.00**
100	2	3	**8427**	**24.50**	**8463**	**24.50**
100	3	4	**8428**	**27.00**	**8464**	**27.00**
*200	2	2	**8436**	**70.00**	**8472**	**70.00**
200	2	3	**8437**	**74.00**	**8473**	**74.00**
200	3	4	**8438**	**78.00**	**8474**	**78.00**

*Fittings marked (*) have no provision for equipment grounding; all others have equipment grounded through separate pole.

Enclosures: Cast Aluminum. Composition interior.

R & S MIDGET EVER-LOK PLUGS, RECEPTACLES & CORD CONNECTORS

AUTOMATIC LOCKING

Listed by Underwriters' Laboratories, Inc.

10 Amp., 250 Volts, A.C. or D.C.—20 Amp., 125 Volts, A.C., 15 Amp., 125 Volts D.C. Max. H.P. Ratings: ½ H.P., 1 Phase —1 H.P., 3 Phase, 115 Volts, 230 Volts A.C.

PLUGS—MALE END

Male plug interior in steel enclosure, cadmium plated finish. Complete with sponge rubber dust-tight bushing and cable grip. Size $1\frac{7}{16}$ inches diameter, $2\frac{5}{16}$ inches long. Maximum cable diameter, ½ inch. Approximate weight, ¼ lb.

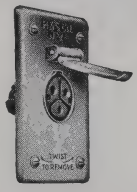
No. of Poles	Cat. No.	Price Each
2 wire, 2 pole	**8712**	**$1.60**
*2 wire, 3 pole	**8713**	**1.70**
*3 wire, 4 pole	**8714**	**1.80**

CONNECTORS—FEMALE END

Female connector interior in steel enclosure, cadmium plated finish. Complete with sponge rubber dust-tight bushing and cable grip. Maximum cable diameter, ½ inch. Approximate net weight, ¼ lb.

No. of Poles	Cat. No.	Price Each
2 wire, 2 pole	**8722**	**$1.60**
*2 wire, 3 pole	**8723**	**1.70**
*3 wire, 4 pole	**8724**	**1.80**

SINGLE RECEPTACLE AND COVER WITH FLAP



Single receptacle complete with heavy gauge steel cover with gasketed flap, cadmium plated finish. Fits types FS and FD conduit boxes. Approximate net weight, ½ lb.

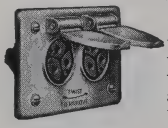
Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8702**	**$2.40**	8712
*2	3	**8703**	**2.50**	8713
*3	4	**8704**	**2.60**	8714

SINGLE RECEPTACLE AND COVER WITHOUT FLAP

Single receptacle complete with heavy gauge steel cover without flap, cadmium plated finish. Fits types FS and FD conduit boxes. Approximate net weight, ⅜ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8802**	**$1.90**	8712
*2	3	**8803**	**2.00**	8713
*3	4	**8804**	**2.10**	8714

DUPLEX RECEPTACLE AND COVER WITH FLAPS



Duplex receptacle complete with heavy gauge steel cover with gasketed flaps, cadmium plated finish. Fits types FS and FD conduit boxes. Approximate net weight, ⅝ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8732**	**$4.00**	8712
*2	3	**8733**	**4.20**	8713
*3	4	**8734**	**4.40**	8714

REVERSE SERVICE—See foot note on following column.

*Equipment ground maintained through one set of contacts. Enclosures are grounded by spring strap to ground contact.

R & S MIDGET EVER-LOK PLUGS, RECEPTACLES & CORD CONNECTORS

AUTOMATIC LOCKING

Listed by Underwriters' Laboratories, Inc.

10 Amp., 250 Volts, A.C. or D.C.—20 Amp., 125 Volts, A.C., 15 Amp., 125 Volts D.C. Max. H.P. Ratings: ½ H.P., 1 Phase —1 H.P., 3 Phase, 115 Volts, 230 Volts A.C.

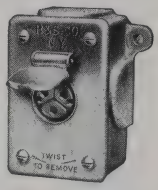
DUPLEX RECEPTACLE AND COVER WITHOUT FLAPS

Duplex receptacle complete with heavy gauge steel cover without flaps, cadmium plated finish. Fits types FS and FD conduit boxes. Approximate net weight, ½ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8832**	**$3.00**	8712
*2	3	**8833**	**3.20**	8713
*3	4	**8834**	**3.40**	8714

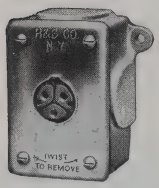
SINGLE RECEPTACLE WITH BOX AND COVER WITH FLAP

Single receptacle with heavy gauge steel cover with gasketed flap, cadmium plated finish, and type FS single gang cast iron conduit box. Approximate net weight, 3½ lbs.



Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8752**	**$3.30**	8712
*2	3	**8753**	**3.40**	8713
*3	4	**8754**	**3.50**	8714

SINGLE RECEPTACLE WITH BOX AND COVER WITHOUT FLAP



Single receptacle complete with heavy gauge steel cover without flap, cadmium plated finish, and type FS single gang cast iron conduit box. Approximate net weight, 3⅜ lbs.

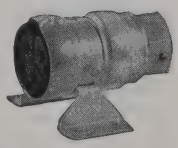
Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8852**	**$2.80**	8712
*2	3	**8853**	**2.90**	8713
*3	4	**8854**	**3.00**	8714

REVERSE SERVICE—All Midget Ever-Lok Plugs, Connectors and Receptacles can be furnished in reverse service — male interiors in receptacles or connectors, and female interiors in the plugs. When ordering reverse service units add the suffix "R" to catalog numbers. Prices on application.

SHOWCASE RECEPTACLES

For Surface Mounting on Displays, Showcases, Machines, Etc.

Housings — Steel, cadmium plated. Tapped for ½-inch conduit. Accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit. Can be furnished tapped for ⅜-inch conduit. Information on application.



Style Wire	Style Pole	Female Receptacle Cat. No.	Female Receptacle Price Each	Female Receptacle Takes Plug No.	Male Receptacle Cat. No.	Male Receptacle Price Each	Male Receptacle Takes Plug No.
2	2	**9042**	**$2.35**	8912	**9042R**	**$2.15**	8912R
*2	3	**9043**	**2.45**	8913	**9043R**	**2.25**	8913R
*3	4	**9044**	**2.55**	8914	**9044R**	**2.35**	8914R

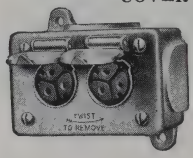
R&S MIDGET EVER-LOK PLUGS, RECEPTACLES & CORD CONNECTORS

AUTOMATIC LOCKING

Listed by Underwriters' Laboratories, Inc.

10 Amp., 250 Volts, A.C. or D.C.—20 Amp., 125 Volts, A.C., 15 Amp., 125 Volts D.C. Max. H.P. Ratings: ½ H.P., 1 Phase —1 H.P., 3 Phase, 115 Volts, 230 Volts A.C.

DUPLEX RECEPTACLE WITH BOX AND COVER WITH FLAPS

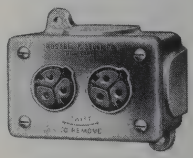


Duplex receptacle with heavy gauge steel cover with gasketed flaps, cadmium plated finish, and type FS single gang cast iron conduit box. Approximate net weight, 3⅝ lbs.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8772**	**$4.90**	8712
*2	3	**8773**	**5.10**	8713
*3	4	**8774**	**5.30**	8714

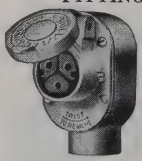
DUPLEX RECEPTACLE WITH BOX AND COVER WITHOUT FLAPS

Duplex receptacle complete with heavy gauge steel cover without flaps, cadmium plated finish, and type FS single gang cast iron conduit box. Approximate net weight, 3½ lbs.



Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8872**	**$3.90**	8712
*2	3	**8873**	**4.10**	8713
*3	4	**8874**	**4.30**	8714

SINGLE RECEPTACLE WITH CONDUIT FITTING AND COVER WITH FLAP



Single receptacle complete with cast aluminum alloy conduit fitting and cover with gasketed flap, corrosion resisting finish. Tapped for ½ inch conduit, one way only. Approximate net weight, ⅝ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8792**	**$3.40**	8712
*2	3	**8793**	**3.50**	8713
*3	4	**8794**	**3.60**	8714

SINGLE RECEPTACLE WITH CONDUIT FITTING AND COVER WITHOUT FLAP

Single receptacle complete with cast aluminum alloy conduit fitting and cover without flap, corrosion resisting finish. Tapped for ½ inch conduit, one way only. Approximate net weight, ⅝ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8892**	**$2.90**	8712
*2	3	**8893**	**3.00**	8713
*3	4	**8894**	**3.10**	8714

REVERSE SERVICE—See foot note on the preceding page.

*Equipment ground maintained through one set of contacts. Enclosures are grounded by spring strap to ground contact.

R&S MIDGET EVER-LOK PLUGS, RECEPTACLES & CORD CONNECTORS

AUTOMATIC LOCKING

Listed by Underwriters' Laboratories, Inc.

10 Amp., 250 Volts, A.C. or D.C.—20 Amp., 125 Volts, A.C., 15 Amp., 125 Volts D.C. Max. H.P. Ratings: ½ H.P., 1 Phase —1 H.P., 3 Phase, 115 Volts, 230 Volts A.C.

SINGLE RECEPTACLE AND COVER WITH FLAP

Single receptacle complete with cast aluminum alloy cover with gasketed flap, corrosion resisting finish. Approximate net weight ⅝ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8782**	**$2.80**	8712
*2	3	**8783**	**2.90**	8713
*3	4	**8784**	**3.00**	8714

SINGLE RECEPTACLE AND COVER WITHOUT FLAP

Single receptacle complete with cast aluminum alloy cover without flap, corrosion resisting finish. Approximate net weight, ⅝ lb.

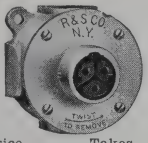
Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8882**	**$2.30**	8712
*2	3	**8883**	**2.40**	8713
*3	4	**8884**	**2.50**	8714

SINGLE RECEPTACLE WITH JUNCTION BOX AND COVER WITH FLAP

Single receptacle complete with cast aluminum alloy cover with gasketed flap, and 3¼ inch cast iron junction box, Cat. No. 382, corrosion resisting finish. Approximate net weight, 2⅜ lbs.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8902**	**$3.65**	8712
*2	3	**8903**	**3.75**	8713
*3	4	**8904**	**3.85**	8714

SINGLE RECEPTACLE WITH JUNCTION BOX AND COVER WITHOUT FLAP



Single receptacle complete with cast aluminum alloy cover without flap, and 3¼ inch cast iron junction box, Cat. No. 382, corrosion resisting finish. Approximate net weight, 2⅜ lbs.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**9002**	**$3.15**	8712
*2	3	**9003**	**3.25**	8713
*3	4	**9004**	**3.35**	8714

SINGLE RECEPTACLE AND FLUSH PLATE WITH FLAP

Single receptacle complete with .060 inch brass flush plate with flap, brush brass finish. Fits standard 4 inch outlet boxes with raised covers or single gang switch boxes having 2 inch minimum depth. Approximate net weight, ⅝ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8742**	**$2.90**	8712
*2	3	**8743**	**3.00**	8713
*3	4	**8744**	**3.10**	8714

REVERSE SERVICE—See foot note on the preceding page.

*Equipment ground maintained through one set of contacts. Enclosures are grounded by spring strap to ground contact.

R&S MIDGET EVER-LOK PLUGS, RECEPTACLES & CORD CONNECTORS

AUTOMATIC LOCKING

Listed by Underwriters' Laboratories, Inc.

10 Amp., 250 Volts A.C. or D.C.—20 Amp., 125 Volts A.C., 15 Amp., 125 Volts D.C. Max. H.P. Ratings ½ H.P., 1 Phase— 1 H.P. 3 Phase, 115 Volts, 230 Volts A.C.

SINGLE RECEPTACLE AND FLUSH PLATE WITHOUT FLAP

Single receptacle complete with .060 inch brass flush plate without flap, brush brass finish. Fits standard 4 inch outlet boxes with raised covers, or single gang switch boxes having 2 inch minimum depth. Approximate weight, ⅝ lb.

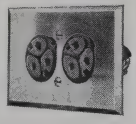
Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8842**	**$2.40**	8712
*2	3	**8843**	**2.50**	8713
*3	4	**8844**	**2.60**	8714

DUPLEX RECEPTACLE AND FLUSH PLATE WITH FLAPS

Duplex receptacle complete with .060 inch brass flush plate with flaps, brush brass finish. Fits standard 4 inch outlet boxes with raised covers. Approximate net weight, ½ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8762**	**$4.50**	8712
*2	3	**8763**	**4.70**	8713
*3	4	**8764**	**4.90**	8714

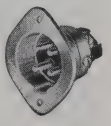
DUPLEX RECEPTACLE AND FLUSH PLATE WITHOUT FLAPS



Duplex receptacle complete with .060 inch brass flush plate without flaps, brush brass finish. Fits standard 4 inch outlet boxes with raised covers. Approximate net weight, ½ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8862**	**$3.50**	8712
*2	3	**8863**	**3.70**	8713
*3	4	**8864**	**3.90**	8714

MALE RECEPTACLE—REVERSE SERVICE



Single male receptacle interior in flanged steel casing, cadmium plated finish. Approximate net weight ⅛ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8942R**	**$1.70**	8712R
*2	3	**8943R**	**1.80**	8713R
*3	4	**8944R**	**1.90**	8714R

FEMALE RECEPTACLE—STANDARD SERVICE

Single female receptacle interior in flanged steel casing, cadmium plated finish. Approximate net weight, ⅛ lb.

Style Wire	Style Pole	Cat. No.	Price Each	Takes Plug No.
2	2	**8942**	**$1.90**	8712
*2	3	**8943**	**2.00**	8713
*3	4	**8944**	**2.10**	8714

REVERSE SERVICE—All Midget Ever-Lok Plugs, Connectors and Receptacles can be furnished in reverse service — male interiors in receptacles or connectors, and female interiors in the plugs. When ordering reverse service units add the suffix "R" to catalog numbers. Prices on application.

*Equipment ground maintained through one set of contacts. Enclosures are grounded by spring strap to ground contact.

EAGLE ELECTRICAL PRODUCTS

No. 475 EAGLE WINKER

Regular type. 100 watts, 110 volts. 14 to 18 flashers per minute. Overall length $2\frac{7}{32}$ inches. Extends lamp 1¼ inches from socket.

Underwriters Listed. Approved by CSA.

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
475	25	250	----	----------

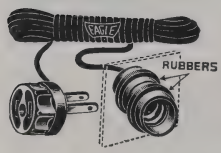
No. 477 EAGLE WINKER

Slow type.

660 watts, 110-120 volts only. For use on A.C. only. 10 to 16 flashes per minute. With the On-Interval longer than the Off-Interval.

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
477	25	25	..	----------

WINKER SIGN ASSEMBLY



110 volts, 100 watts. 14 to 16 flashes per minute. Constructed on fibre socket supplied with 2 heavy rubber bands, for sign display work, 6 ft. of rubber cord and No. 471 double winker. Ideal for all display work.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
478	Winker Sign Assembly	100	--------	----------

No. 472T GACOR DIAMOND WINKER BUTTON

Twinkle Type. Quick flashing; recommended for signs or clusters of lamps. Capacity up to 60 watts, 125 volts, 60 to 65 flashes per minute. For use with medium type sockets only. 110-125 volts. 10 to card or 50 to box. Standard package, 10 cards.

Price, No. **472T**, Twinkle Type.....per 100 .....

No. 472B GACOR DIAMOND FLASHER BUTTON

Beacon Type. Slow flashing and regular. Adaptable for use with individual lamps. Capacity up to 60 watts, 125 volts and 220 volts, 28 to 33 flashes per minute. For use with medium type sockets only. Packed same as for Twinkle Type.

Price, No. **472B**, Beacon Type.....per 100 .....

For 220 volt, Beacon type, add .....

EAGLE ELECTRICAL PRODUCTS

FITS-ALL IRON ELEMENTS

No. 1 replacement element for all 5 pound irons. No. 2 for all 6 pound irons. No. 3 is the replacement element for most all 3 pound irons.

Cat. No.	Volts	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
301	110-120	10	100	7	----------
302	110-120	10	100	8	----------
1031	110-120	10	100	7	----------
316	110	10	100	7	----------

No. 415 STRAIGHT GLOCOIL

Fits all screw type heaters. Best grade of coiled Nichrome wire used. 110-120 volts, 600 to 660 watts. Also supplied in 220, 250 volts, and from 75 to 660 watts in 110-volt size only.

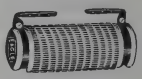
Cat. No.	Carton	Std. Pkg.	Price Per 100 110-120 V.	220-230 V.	Special V.
415	12	72	----------	----------	----------

No. 415A CONE GLOCOIL

Fits all screw type heaters. Best grade coiled Nichrome wire used. 110-120 volts, 600 to 660 watts. Also supplied in 32, 220, 250 volts, and from 75 to 1000 watts in 110-volt size only. Individually boxed.

Cat. No.	Carton	Std. Pkg.	Price Per 100 110-120 V.	220-230 V.	Special V.
415A	12	108	----------	----------	----------

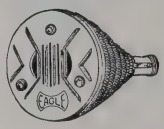
HORIZONTAL GLOCOIL



Fits all heaters where element is bolted horizontally. Standard voltage 110-120, 600 watts. Special voltages, 220-250 volts.

Cat. No.	Carton	Std. Pkg.	Price Per 100 110-120 V.	220-230 V.	Special V.
415B	12	48	----------	----------	----------

1000 WATT SUPER GLOCOIL



A 1000-watt Glocoil specially constructed with wide heating space, giving large reflecting area. Increases capacity over told-type unit three-fold. 3¾ inches diam. and extends 4¼ inches. Made in 110 and 220 volt.

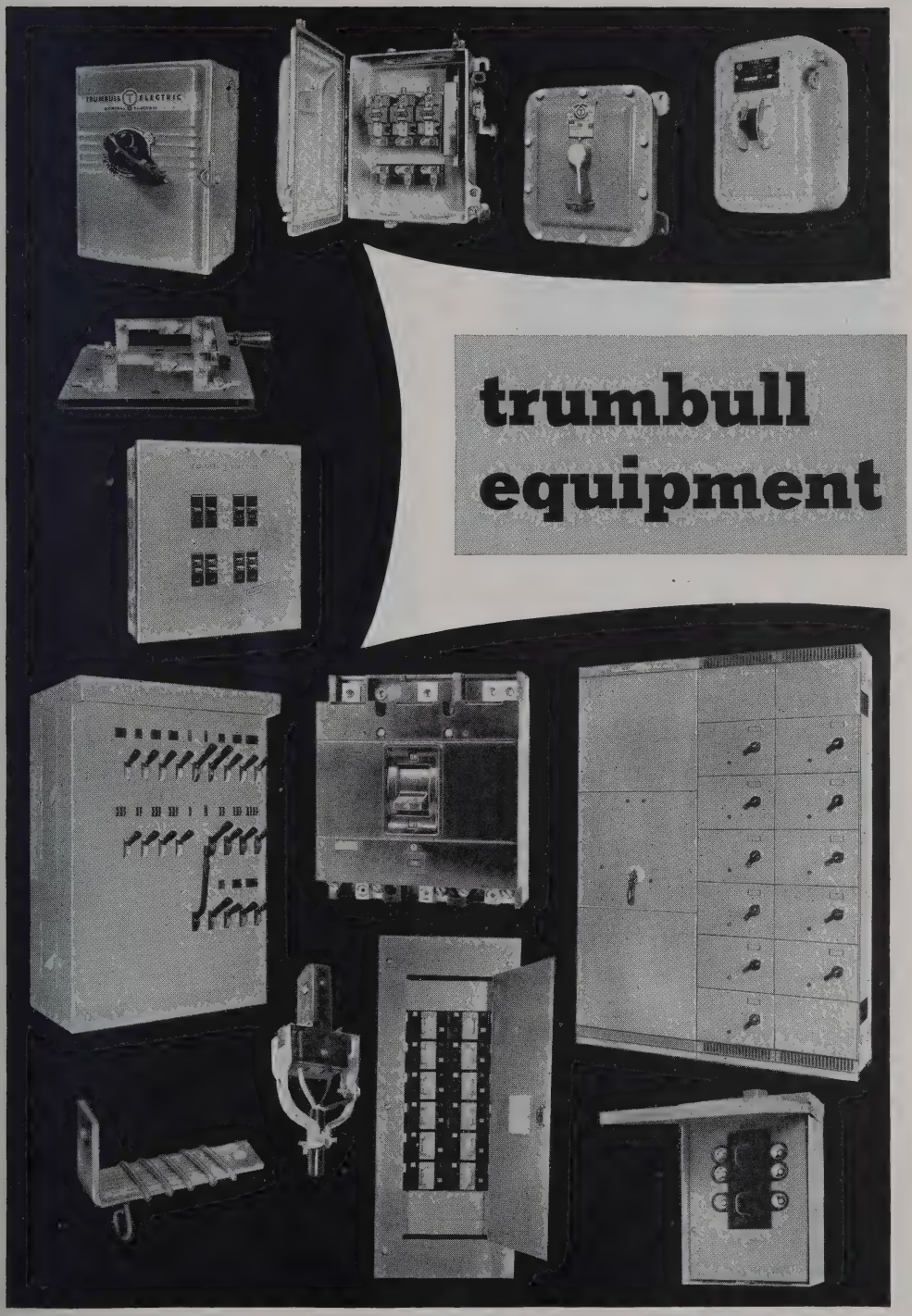
Price, No. **420** Glocoil (110v).....per 100 .....

TOASTER ELEMENT

Can be adjusted by means of corner straps to fit many different toasters. 575 watts, 110 volts.

Cat. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
335	10	100	10	----------

For special voltages, 32, 220-240 volts, add ---------- per 100.

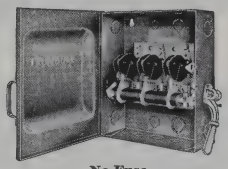

TRUMBULL ELECTRIC
trumbull
equipment

TRUMBULL HEAVY-DUTY SAFETY SWITCHES

TYPE A—STYLE A—SINGLE THROW

Quick Make and Quick Break—Interlocking Cover

Fusible



No Fuse

Enclosure: General Purpose NEMA — Type 1.
Finish: Medium Light Grey.

FUSIBLE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
30	2	230 AC, 2 HP 250 DC, 5 HP	72221	$23.30
		600 DC, 7½ HP	72261	39.00
	3	230 AC, 3 HP 575 AC, 7½ HP	72321 72361	29.00 45.00
	3SN	230 3 Ø, 3 HP	72321SN	26.60
	4	230 AC, 3 HP 575 AC, 7½ HP	72421 72461	41.00 56.00
	4SN	230 AC, 3 HP	72421SN	39.00
60	2	230 AC, 5 HP 250 DC, 10 HP	72222	31.00
		600 DC, 15 HP	72262	41.00
	3	230 AC, 7½ HP 575 AC, 20 HP	72322 72362	41.00 48.00
	3SN	230 3 Ø, 7½ HP	72322SN	35.00
	4	230 AC, 10 HP 575 AC, 20 HP	72422 72462	50.00 61.00
	4SN	230 AC, 7½ HP	72422SN	48.00
100	2	230 AC, 10 HP 250 DC, 15 HP	72223	48.00
		600 DC, 25 HP	72263	63.00
	3	230 AC, 15 HP 575 AC, 30 HP	72323 72363	63.00 72.00
	3SN	230 3 Ø, 15 HP	72323SN	56.00
	4	230 AC, 20 HP 575 AC, 30 HP	72423 72463	83.00 96.00
	4SN	230 AC, 15 HP	72423SN	75.00
200	2	230 AC, 15 HP 250 DC, 30 HP	72224	79.00
		600 DC, 50 HP	72264	94.00
	3	230 AC, 30 HP 575 AC, 50 HP	72324 72364	94.00 117.00
	3SN	230 3 Ø, 30 HP	72324SN	87.00
	4	230 AC, 30 HP 575 AC, 50 HP	72424 72464	146.00 161.00
	4SN	230 AC, 30 HP	72424SN	110.00
400	2	230 AC, 25 HP 250 DC, 50 HP 600 AC or DC	72225 72265	179.00 218.00
	3	230 AC, 50 HP 575 AC	72325 72365	204.00 238.00
	3SN	230 3 Ø, 50 HP	72325SN	198.00
	4	230 AC, 50 HP 575 AC	72425 72465	278.00 307.00
	4SN	230 AC, 50 HP	72425SN	229.00
600	2	250 AC or DC 600 AC or DC	72226 72266	287.00 347.00
	3	230 AC 575 AC	72326 72366	349.00 396.00
	3SN	230 AC	72326SN	318.00
	4	230 AC 575 AC	72426 72466	480.00 499.00
	4SN	230 AC	72426SN	382.00

TRUMBULL HEAVY-DUTY SAFETY SWITCHES

TYPE A—STYLE A—SINGLE THROW

FUSIBLE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
†800	2	250 AC or DC 600 AC or DC	72227 72267	437.00 535.00
	3	230 AC 575 AC	72327 72367	595.00 692.00
	3SN	230 AC	72327SN	476.00
	4	230 AC 575 AC	72427 72467	899.00 916.00
	4SN	230 AC	72427SN	855.00
†1200	2	250 AC or DC 600 AC or DC	72228 72268	604.00 752.00
	3	230 AC 575 AC	72328 72368	762.00 910.00
	3SN	230 AC	72328SN	674.00
	4	230 AC 575 AC	72428 72468	1099.00 1285.00
	4SN	230 AC	72428SN	1049.00

† Twin Lugs per Pole.

NO FUSE

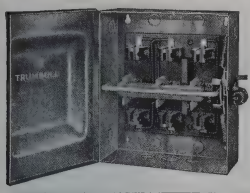
30	2	230 AC, 3 HP 250 DC, 5 HP	36221	$21.95
		600 DC, 7½ HP	36261	26.60
	3	230 AC, 5 HP 575 AC, 10 HP	36321 36361	26.60 31.00
	4	230 AC, 5 HP 575 AC, 10 HP	36461	39.00
60	2	230 AC, 7½ HP 250 DC, 10 HP	36222	29.00
		600 DC, 15 HP	36262	34.00
	3	230 AC, 10 HP 575 AC, 25 HP	36362	39.00
	4	230 AC, 15 HP 575 AC, 25 HP	36462	50.00
100	2	230 AC, 15 HP 250 DC, 15 HP	36223	47.00
		600 DC, 25 HP	36263	56.00
	3	230 AC, 20 HP 575 AC, 40 HP	36363	58.00
	4	230 AC, 25 HP 575 AC, 40 HP	36463	89.00
200	2	230 AC, 25 HP 250 DC, 30 HP	36224	67.00
		600 DC, 50 HP	36264	72.00
	3	230 AC, 40 HP 575 AC, 50 HP	36364	76.00
	4	230 AC, 50 HP 575 AC, 50 HP	36464	141.00
400	2	250 DC, 50 HP 600 AC or DC	36225 36265	124.00 178.00
	3	230 AC, 50 HP 575 AC	36365	198.00
	4	230 AC, 50 HP 575 AC	36465	257.00
600	2	250 AC or DC 600 AC or DC	36226 36266	244.00 257.00
	3	575 AC	36366	318.00
	4	575 AC	36466	449.00
†800	2	250 AC or DC 600 AC or DC	36227 36267	386.00 386.00
	3	575 AC	36367	516.00
	4	575 AC	36467	664.00
†1200	2	250 AC or DC 600 AC or DC	36228 36268	527.00 527.00
	3	575 AC	36368	692.00
	4	575 AC	36468	910.00

† Twin Lugs per Pole.

"SN" (Solid Neutral) Switches have a neutral strap between two poles. For example: No. 72221, a 2-pole switch, by the addition of this neutral strap becomes No. 72321SN, a 3-pole solid neutral switch. Exception: 3, 4 and 5-pole solid neutral switches 800-ampere and above have regular 3, 4 and 5-pole bases.

"SWN" (Switching Neutral). When Switching Neutrals are required on enclosed switches, order the standard switch of the required number of poles and use a dummy fuse in the neutral.

TRUMBULL HEAVY-DUTY SAFETY SWITCHES



TYPE A—STYLE A

MOTOR REVERSING SWITCH

No Fuse

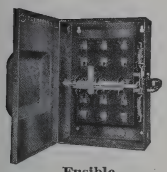
Amperes	No. of Poles	Voltage	Cat. No.	Wt. Lbs. Each	List Each
30	2	250 AC or DC	87221	12	$32.00
	3	230 AC	87321	16	44.00
30-60	2	575 AC	87262	22	52.00
	3	575 AC	87362	25	69.00
100	2	575 AC	87263	37	85.00
	3	575 AC	87363	45	116.00
200	2	575 AC	87264	55	120.00
	3	575 AC	87364	76	182.00

TYPE A — STYLE A — DOUBLE-THROW

Quick Make and Break — Interlocking Cover

Enclosure: General Purpose NEMA Type 1

Finish: Machine Grey



Fusible

No Fuse

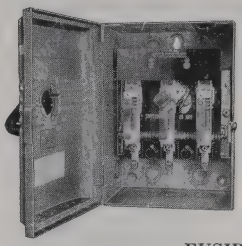
Amp.	Poles	Voltage	FUSIBLE Cat. No.	FUSIBLE List Each	NO FUSE Cat. No.	NO FUSE List Each
30	2	250†	70221	$44.00	35221	$26.60
		575 AC	70261	89.00	35262	48.00
	3	230 AC	70321	48.00	35321	32.00
		575 AC	70361	94.00	35362	52.00
	4	230 AC	70421	67.00	35421	47.00
		575 AC	70461	142.00	35462	74.00
60	2	250†	70222	79.00	35222	43.00
		575 AC	70262	92.00	35262	48.00
	3	230 AC	70322	87.00	35322	48.00
		575 AC	70362	97.00	35362	52.00
	4	230 AC	70422	107.00	.....	.....
		575 AC	70462	145.00	35462	74.00
100	2	250†	70223	120.00	35223	63.00
		575 AC	70263	160.00	35263	69.00
	3	230 AC	70323	145.00	35323	77.00
		575 AC	70363	171.00	35363	84.00
	4	230 AC	70423	171.00	.....	.....
		575 AC	70463	252.00	35463	156.00
200	2	250†	70224	167.00	35224	84.00
		575 AC	70264	194.00	35264	94.00
	3	230 AC	70324	220.00	35324	121.00
		575 AC	70364	256.00	35364	130.00
	4	230 AC	70424	278.00	.....	.....
		575 AC	70464	325.00	35464	208.00
*400	2	250†	70225	338.00	35225	238.00
		575 AC	70265	364.00	35265	267.00
	3	230 AC	70325	464.00	35325	319.00
		575 AC	70365	476.00	35365	337.00
	4	230 AC	70425	516.00	.....	.....
		575 AC	.....	.....	35465	466.00
*600	2	250†	70226	421.00	35226	337.00
		575 AC	.....	.....	35266	376.00
	3	230 AC	70326	561.00	35326	443.00
		575 AC	.....	.....	35366	487.00
	4	230 AC	70426	664.00	.....	.....
		575 AC	.....	.....	35466	604.00

†AC or DC. *400 and 600 amp. Quick Break only.

Schedule A

TRUMBULL SAFETY SWITCHES

HEAVY DUTY ENCLOSED SAFETY SWITCHES



TYPE A—STYLE HCI SINGLE THROW

Front Operated.
General Purpose Enclosure—Nema Type 1.
Quick Make—Quick Break.
Interlocking Cover.
Finish—Medium Light Grey.
Removable Interior.

FUSIBLE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
30	2	230 AC, 2 HP: 250 DC, 5 HP	90221	$23.30
		600 DC, 7½ HP	90261	39.00
	3	230 AC, 3 HP 575 AC, 7½ HP	90321 90361	29.00 45.00
	3SN	230 3 ∅, 3 HP: 250 DC, 5 HP	90321SN	26.60
	4	230 AC, 3 HP 575 AC, 7½ HP	90421 90461	41.00 56.00
	4SN	230 AC, 3 HP	90421SN	39.00
60	2	230 AC, 5 HP: 250 DC, 10 HP	90222	31.00
		600 DC, 15 HP	90262	41.00
	3	230 AC, 7½ HP 575 AC, 20 HP	90322 90362	41.00 48.00
	3SN	230 3 ∅, 7½ HP: 250 DC, 10 HP	90322SN	35.00
	4	230 AC, 10 HP 575 AC, 20 HP	90422 90462	50.00 61.00
	4SN	230 AC, 7½ HP	90422SN	48.00
100	2	230 AC, 10 HP: 250 DC, 15 HP	90223	48.00
		600 DC, 25 HP	90263	63.00
	3	230 AC, 15 HP 575 AC, 30 HP	90323 90363	63.00 72.00
	3SN	230 3 ∅, 15 HP: 250 DC, 15 HP	90323SN	56.00
	4	230 AC, 20 HP 575 AC, 30 HP	90423 90463	83.00 96.00
	4SN	230 AC, 15 HP	90423SN	75.00

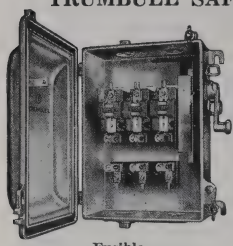
"SWN" (Switching Neutral) When switching neutrals are required on enclosed switches, order the standard switch of the required number of poles and use a dummy fuse in the neutral.

NO FUSE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
30	2	230 AC, 3 HP: 250 DC, 5 HP	45221	$21.95
		600 DC, 7½ HP	45261	26.60
	3	230 AC, 5 HP 575 AC, 10 HP	45321 45361	26.60 31.00
	4	230 AC, 5 HP: 575 AC, 10 HP	45461	39.00
60	2	230 AC, 7½ HP: 250 DC, 10 HP	45222	29.00
		600 DC, 15 HP	45262	34.00
	3	230 AC, 10 HP, 575 AC, 25 HP	45362	39.00
	4	230 AC, 15 HP: 575 AC, 25 HP	45462	50.00
100	2	230 AC, 15 HP: 250 DC, 15 HP	45223	47.00
		600 DC, 25 HP	45263	56.00
	3	230 AC, 20 HP: 575 AC, 40 HP	45363	58.00
	4	230 AC, 25 HP: 575 AC, 40 HP	45463	89.00

Schedule A

TRUMBULL SAFETY SWITCHES



Fusible

TYPE A—STYLE RBA SINGLE THROW

NEMA Types 4 and 5 Cast Iron Enclosure

Quick make and quick break — Interlocking cover — Solderless lugs. Finish: Medium light grey.

FUSIBLE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	Approx. Wt., Lbs.	List Each
30	2	230 AC, 2 HP 250 DC, 5 HP	68221C	26	$87.00
		600 DC, 7½ HP	68261C	33	108.00
	3	230 AC, 3 HP 575 AC, 7½ HP	68321C 68361C	26 35	97.00 118.00
60	2	230 AC, 5 HP 250 DC, 10 HP	68222C	34	92.00
		600 DC, 15 HP	68262C	98	116.00
	3	230 AC, 7½ HP 575 AC, 20 HP	68322C 68362C	49 103	107.00 128.00
100	2	230 AC, 10 HP 250 DC, 15 HP	68223C	118	239.00
		600 DC, 25 HP	68263C	120	256.00
	3	230 AC, 15 HP 575 AC, 30 HP	68323C 68363C	120 164	263.00 276.00
200	2	230 AC, 15 HP 250 DC, 30 HP	68224C	175	351.00
		600 DC, 50 HP	68264C	120	370.00
	3	230 AC, 30 HP 575 AC, 50 HP	68324C 68364C	240 200	377.00 386.00
400	2	230 AC, 25 HP 250 DC, 50 HP	68225C	200	713.00
		600 AC, or DC	68265C	250	737.00
	3	230 AC, 50 HP 575 AC	68325C 68365C	250	737.00 763.00

NO FUSE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	Approx. Wt., Lbs.	List Each
30	3	230 AC, 5 HP 575 AC, 10 HP 250 DC, 5 HP 600 DC, 7½ HP	34361C	25	$97.00
60	3	230 AC, 10 HP 575 AC, 25 HP 250 DC, 10 HP 600 DC, 15 HP	34362C	46	103.00
100	3	230 AC, 20 HP 575 AC, 40 HP 250 DC, 15 HP 600 DC, 25 HP	34363C	72	257.00
200	3	230 AC, 40 HP 575 AC, 50 HP 250 DC, 30 HP 600 DC, 50 HP	34364C	160	351.00
400	3	230 AC, 50 HP 575 AC 250 DC, 50 HP 600 DC	34365C	250	703.00

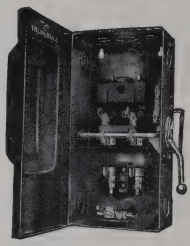
All boxes furnished with two holes drilled and tapped in each end. One hole in each end closed with pipe plug. Pipe size tapped holes: 30 amp., ¾-inch; 60 amp., 1¼-inch; 100 amp., 1½-inch; 200 amp., 2½-inch; 400 amp., 3-inch.

Schedule A

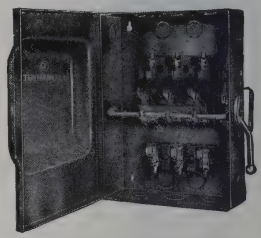
TRUMBULL SAFETY SWITCHES

TYPE C—SINGLE THROW—NEMA TYPE 1

Quick Make and Quick Break



Solid Neutral



Fusible — 60 Amp., 230 V.

FUSIBLE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
30	2	230 AC, 2 HP; 250 DC, 5 HP	40221A	$ 13.20
	3	230 AC, 3 HP 575 AC, 7½ HP	40321A 40361	15.95 28.00
	3SN	230 AC, 3 Ø, 3 HP	41321A	14.65
	4	230 AC, 3 HP 575 AC, 7½ HP	40421 40461	31.00 45.00
	4SN	230 AC, 3 HP	41421A	20.65
60	2	230 AC, 5 HP; 250 DC, 10 HP	40222	23.30
	3	230 AC, 7½ HP 575 AC, 20 HP	40322 40362	29.00 34.00
	3SN	230 AC, 3 Ø, 7½ HP	41322	24.65
	4	230 AC, 10 HP 575 AC, 20 HP	40422 40462	43 00 52.00
	4SN	230 AC, 7½ HP	41422	34.00
100	2	230 AC, 10 HP; 250 DC, 15 HP	40223	37.00
	3	230 AC, 15 HP 575 AC, 30 HP	40323 40363	45.00 62.00
	3SN	230 AC, 3 Ø, 15 HP	41323	39.00
	4	230 AC, 20 HP 575 AC, 30 HP	40423 40463	69.00 92.00
	4SN	230 AC, 15 HP	41423	53.00
200	2	230 AC, 15 HP; 250 DC, 30 HP	40224	56.00
	3	230 AC, 30 HP 575 AC, 50 HP	40324 40364	77.00 92.00
	3SN	230 AC, 3 Ø, 30 HP	41324	70.00
	4	230 AC, 30 HP 575 AC, 50 HP	40424 40464	124.00 149.00
	4SN	230 AC, 30 HP	41424	92.00
400	2	230 AC, 25 HP; 250 DC, 50 HP	40225	142.00
	3	230 AC, 50 HP	40325	162.00
	3SN	230 AC, 3 Ø, 50 HP	41325	155.00
	4	230 AC, 50 HP	40425	231.00
	4SN	230 AC, 50 HP	41425	198.00
600	2	250 AC or DC	40226	278.00
	3	230 AC	40326	321.00
	3SN	230 AC	41326	298.00
	4	230 AC	40426	425.00
	4SN	230 AC	41426	354.00

NO FUSE

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
30	2	230 AC, 3 HP; 250 DC, 5 HP	20221A	$ 11.70
	3	230 AC, 5 HP 575 AC, 10 HP	20321A 20361	14.65 20.65
	4	230 AC, 5 HP 575 AC, 10 HP	20421 20461	26.60 32.00
60	2	230 AC, 7½ HP; 250 DC, 10 HP	20222	20.65
	3	230 AC, 10 HP 575 AC, 25 HP	20322 20362	26.60 28.00
	4	230 AC, 15 HP 575 AC, 25 HP	20422 20462	35.00 45.00

Solderless Lugs standard on all switches on which lugs are normally furnished.

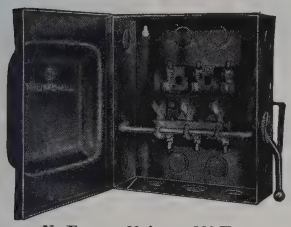
"SN" (Solid Neutral) Switches furnished with insulated groundable neutral, 30 to 100-amp. inclusive: 200-amp. and above, insulated neutral only with lug for grounding, if desired.

"SWN" (Switching Neutral). When Switching Neutrals are required on enclosed switches, order the standard switch of the required number of poles and use a dummy in the neutral.

TRUMBULL SAFETY SWITCHES

TYPE C — SINGLE THROW

Quick Make and Quick Break



No Fuse — 60 Amp., 230 V.

Enclosure: General Purpose NEMA Type 1. Finish: Medium light grey.

NO FUSE—Continued

Amp.	Poles	Voltage and Max. HP Rating	Cat. No.	List Each
100	2	230 AC, 15 HP; 250 DC, 15 HP	20223	$ 35.00
	3	230 AC, 20 HP 575 AC, 40 HP	20323 20363	40.00 52.00
	4	230 AC, 25 HP 575 AC, 40 HP	20423 20463	67.00 84.00
200	2	230 AC, 25 HP; 250 DC, 30 HP	20224	47.00
	3	230 AC, 40 HP 575 AC, 50 HP	20324 20364	64.00 70.00
	4	230 AC, 50 HP 575 AC, 50 HP	20424 20464	118.00 120.00
400	2	250 DC, 50 HP	20225	118.00
	3	230 AC, 50 HP	20325	142.00
600	2	250 AC or DC	20226	220.00
	3	230 AC	20326	288.00

TYPE C ENCLOSED SWITCHES

SINGLE THROW

RAINTIGHT—NEMA TYPE 3

Fusible. Side operated. Finish: Medium light grey.

Amp.	Poles	Blades	Fuses	Voltage and Max. HP Rating	Cat. No.	List Price Without Hub
3	3	2	2	125-250	W13321SN	$ 24.65
	3	3	3	230 AC, 3 HP	W13321	29.00
	3	3	3	575 AC, 7½ HP	W40361	48.00
60	3	2	2	125-250	W41322	45.00
	3	3	3	230 AC, 7½ HP	W40322	47.00
	3	3	3	575 AC, 20 HP	W40362	56.00
100	3	2	2	125-250	W41323	62.00
	3	3	3	230 AC, 15 HP	W40323	68.00
	3	3	3	575 AC, 30 HP	W40363	87.00
200	3	2	2	125-250	W41324	85.00
	3	3	3	230 AC, 30 HP	W40324	91.00
	3	3	3	575 AC, 50 HP	W40364	119.00
400	3	2	2	125-250	W41325	202.00
	3	3	3	230 AC	W40325	207.00
	3	3	3	575 AC	*W72365	281.00

*This device uses Type A construction.

HUB DESCRIPTION

Add Suffix to Cat. No.	Addition for Hubs	Add Suffix to Cat. No.	Addition for Hubs	Add Suffix to Cat. No.	Addition for Hubs
¾″—C	$2.25	1½″—G	$3.75	3″ —J	$10.25
1″ —D	2.25	2″ —H	3.75	3½″—Y	17.35
1¼″—E	2.25	2½″—W	5.90		

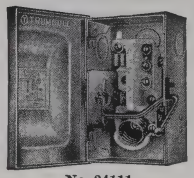
TRUMBULL ENCLOSED SWITCHES

TYPE D

SINGLE THROW—SIDE OPERATED

General Purpose Enclosure—NEMA Type 1

Finish: Machine Grey



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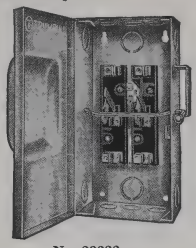


No. 23322

Amp.	Poles	Blades	Fuse	Volts	Cat. No.	List Each
Fusible — Plug Fuses						
30	2	2	2	125-250	24211 •27211	$4.70 4·70
	2SN	1	1	125	24111 23111	3.95 3.95
	3	3	3	125-250	24311 •27311	8.80 8.80
	3SN	2	2	125-250	23311 •25311	5.15 5.15
Fusible — Cartridge Fuses						
30	2	2	2	250	24221 •27221	5.90 5.90
	3	3	3	230 AC	24321 •27321	11.00 11.00
	3SN	2	2	125-250, 230 AC	23321 •25321	7.30 7.30
	4SN	3	3	230 AC	23421	14.65
60	2	2	2	250	24222	12.50
	3	3	3	230 AC	24322 •27322	17.35 17.35
	3SN	2	2	125-250, 230 AC	23322 •25322	12.50 12.50
	4SN	3	3	230 AC	23422	29.00
100	2	2	2	250	24223	28.00
	3	3	3	230 AC	24323 •27323	32.00 32.00
	3SN	2	2	125-250, 230 AC	23323 •25323	29.00 29.00
	4SN	3	3	230 AC	23423	48.00
200	2	2	2	250	24224	52.00
	3	3	3	230 AC	24324 •27324	70.00 70.00
	3SN	2	2	125-250, 230 AC	23324 •25324	64.00 64.00
	4SN	3	3	230 AC	23424	87.00
No Fuse						
30	2	2	0	250	12221	4.40
	3	3	0	230 AC	12321	8.50
60	2	2	0	250	12222	13.20
	3	3	0	230 AC	12322	15.95
100	2	2	0	250	12223	26.60
	3	3	0	230 AC	12323	29.00
200	2	2	0	250	12224	39.00
	3	3	0	230 AC	12324	52.00

•Top ends are furnished with twistouts to take standardized meters.

‡Base mounted on saddle, entire unit easily removed.

"SN" (Solid Neutral) switches are furnished with insulated groundable neutral 30-100 inclusive. 200 Amp. and above insulated neutral only with lug for grounding.

TRUMBULL ENCLOSED SWITCHES

TYPE D

SINGLE THROW—SIDE OPERATED

Rain Tight Enclosure—NEMA Type 3

Finish: Medium Light Grey

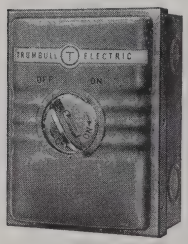
No. 24111WPC

Prices shown are for Enclosures without hubs. Hubs can be furnished at the following additions. In ordering designate hub size by assigning letter to Cat. No.

Amp.	Hub Size	Suffix	List Addition
30	¾	C	$2.25
30	1	D	2.25
60	1¼	E	2.25
100	2	H	3.75

FUSIBLE

Amp.	Poles	Blades	Fuse	Volts	Cat. No.	Without Hub
30	2	1	1P.	125	24111WP	$9.45
	2	2	2P.	125-250	24211WP	10.20
	3	2	2P.	125-250	23311WP	10.90
	2	2	2C.	250	24221WP	10.90
	3	2	2C.	125-250, 230 AC	23321WP	12.50
	3	3	3C.	230 AC	24321WP	19.10
60	3	2	2	125-250, 230 AC	23322WP	23.30
	3	3	3	230 AC	24322WP	24.65
100	3	2	2	125-250, 230 AC	23323WP	43.00
	3	3	3	230 AC	24323WP	48.00
200	3	2	2	125-250, 230 AC	23324WP	79.00
	3	3	3	230 AC	24324WP	85.00



TYPE D 30 AMPERE FRONT OPERATED SWITCHES

Designed primarily for Service Entrance and for general purpose use.

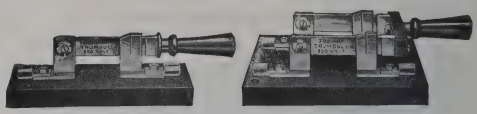
Features: Locking provision — plenty of wiring room — insulated groundable neutral — removable interior — positive make and break — plenty of knockouts (12).

Cat. No.	Description	List Each
58211SN	2 Pole solid neutral (1 blade, 1 plug fuse) 125 volts	$3.95
58211SNX	2 pole S/N (1 blade, 1 plug fuse) 125 volts w/ dead front shield	4.90
58311SN	3 pole solid neutral (2 blades, 2 plug fuses) 125/250 volts	5.15
58311SNT	3 pole solid neutral (2 blades, 2 plug fuses) 125/250 volts with meter twistout	5.15
58311SNX	3 pole S/N (2 blades, 2 plug fuses) 125/250 volts with dead front shield	6.10
58211	2 pole (2 blades, 2 plug fuses) 125/250 volts	4.70
58211X	2 pole (2 blades, 2 plug fuses) 125/250 volts with dead front shield	5.65
58211T	2 pole (2 blades, 2 plug fuses) 125/250 volts with meter twistout	4.70
58221	2 pole (2 blades, 2 cartridge fuses) 250 volts	5.90
58321SN	3 pole solid neutral (2 blades, 2 cartridge fuses) 125/250 volts 230 volts AC	7.30

Box size: 4½" wide x 6⅛" long x 3¼" deep.

TRUMBULL OPEN KNIFE SWITCHES

TYPE "A"



SINGLE THROW—FRONT CONNECTED

Mounted in Slate Base

250 V. D.C.—250 and 500 V. A.C.

No Fuse—High Posts—Brush Finish

Amp.	1 Pole Cat. No.	1 Pole Price Each	2 Pole Cat. No.	2 Pole Price Each	3 Pole Cat. No.	3 Pole Price Each
†30	3721	$ 3.65	3801	$ 5.05	3881	$ 7.85
30	3721½	4.90	3801½	7.00	3881½	10.60
60	3722	5.05	3802	7.65	3882	11.65
100	3724	9.75	3804	14.90	3884	23.40
200	3726	14.90	3806	21.25	3886	32.00
400	3729	33.00	3809	51.00	3889	76.00
600	3731	48.00	3811	73.00	3891	109.00
800	3732	84.00	3812	123.00	3892	187.00
1200	3734	113.00	3814	169.00	3894	253.00
1600	3735½	215.00	3815½	321.00	3895½	481.00
2000	3736	238.00	3816	354.00	3896	534.00

250 V. D.C. and A.C.

Fusible—High Posts—Brush Finish

30	4361	$ 5.05	4381	$ 7.65	4401	$11.65
60	4362	7.65	4382	11.65	4402	18.10
100	4364	14.90	4384	21.25	4404	30.00
200	4366	21.25	4386	32.00	4406	48.00
400	4368	48.00	4388	73.00	4408	109.00
600	4370	68.00	4390	101.00	4410	153.00
800	4371	107.00	4391	164.00	4411	246.00
1200	4373	146.00	4393	217.00	4413	327.00

SINGLE THROW—BACK CONNECTED

Mounted on Slate Base

250 V. A.C. or D.C.—500 V. A.C.

No Fuse—Brush Finish

Amp.	1 Pole Cat. No.	1 Pole Price Each	2 Pole Cat. No.	2 Pole Price Each	3 Pole Cat. No.	3 Pole Price Each
30	3761	$ 3.80	3841	$ 6.80	3921	$10.40
30	3761½	5.55	3841½	10.00	3921½	15.55
60	3762	5.70	3842	10.60	3922	15.55
100	3764	9.75	3844	18.10	3924	28.00
200	3766	14.90	3846	28.00	3926	41.00
400	3769	32.00	3849	58.00	3929	87.00
600	3771	48.00	3851	87.00	3931	132.00
800	3772	86.00	3852	153.00	3932	230.00
1200	3774	114.00	3854	208.00	3934	312.00

250 V. A.C. or D.C.

Fusible—Low Posts—Brush Finish

30	4081	$ 4.45	4161	$ 8.10	4241	$12.75
60	4082	7.00	4162	12.75	4242	19.15
100	4084	13.80	4164	23.40	4244	36.00
200	4086	19.15	4166	33.00	4246	51.00
400	4088	41.00	4168	74.00	4248	111.00
600	4090	62.00	4170	111.00	4250	167.00

†Up to 250 volts only.

SCHEDULE B-1

TRUMBULL OPEN KNIFE SWITCHES

TYPE "A"

DOUBLE THROW—FRONT CONNECTED

Mounted on Slate Base

250 V. A.C. or D.C.—500 V. A.C.

No Fuse—High Posts—Brush Finish

Amp.	1 Pole Cat. No.	1 Pole Price Each	2 Pole Cat. No.	2 Pole Price Each	3 Pole Cat. No.	3 Pole Price Each
†30	3741	$ 5.05	3821	$ 7.65	3901	$11.65
30	3741½	6.60	3821½	10.00	3901½	14.90
60	3742	7.65	3822	11.65	3902	17.00
100	3744	14.90	3824	21.25	3904	32.00
200	3746	23.40	3826	33.00	3906	48.00
400	3749	53.00	3829	78.00	3909	117.00
600	3751	73.00	3831	109.00	3911	162.00
800	3752	128.00	3832	189.00	3912	285.00
1200	3754	172.00	3834	257.00	3914	387.00
1600	3755½	317.00	3835½	476.00	3915½	712.00
2000	3756	392.00	3836	584.00	3916	878.00

DOUBLE THROW—BACK CONNECTED

Mounted on Slate Base

250 V. A.C. or D.C.—500 V. A.C.

No Fuse—Low Posts—Brush Finish

30	3781	$ 5.55	3861	$ 9.75	3941	$14.90
30	3781½	7.45	3861½	13.80	3941½	21.25
60	3782	8.10	3862	14.90	3942	21.25
100	3784	13.80	3864	25.50	3944	39.00
200	3786	21.25	3866	39.00	3946	58.00
400	3789	46.00	3869	86.00	3949	128.00
600	3791	68.00	3871	123.00	3951	185.00
800	3792	121.00	3872	221.00	3952	329.00
1200	3794	167.00	3874	306.00	3954	459.00

TYPE "C"

SINGLE THROW—FRONT CONNECTED

250 V. D.C.—500 V. A.C.

No Fuse—Low Posts

Amp.	1 Pole Cat. No.	1 Pole Price Each	2 Pole Cat. No.	2 Pole Price Each	3 Pole Cat. No.	3 Pole Price Each
†30	3001	$ 1.50	3041	$ 2.30	3081	$ 3.65
30	3002	2.30	3042	3.65	3082	5.35
60	3003	2.75	3043	4.30	3083	6.15
100	3005	5.55	3045	8.30	3085	12.75
200	3006	9.75	3046	14.90	3086	21.25

250 V. D.C.—500 V. A.C.

Fusible—High Posts

30	1120	$ 2.30	1130	$ 3.65	1140	$ 5.35
60	1121	4.05	1131	5.95	1141	9.15
100	1123	8.10	1133	12.75	1143	19.15
200	1124	14.90	1134	21.25	1144	32.00

DOUBLE THROW—FRONT CONNECTED

250 V. A.C. or D.C.—500 V. A.C.

No Fuse—Low Posts

†30	3021	$ 2.75	3061	$ 4.05	3101	$ 5.95
30	3022	3.80	3062	5.55	3102	8.45
60	3023	4.45	3063	6.60	3103	10.00
100	3025	10.25	3065	15.95	3105	23.40
200	3026	16.05	3066	23.40	3106	36.00

†Up to 250 volts only.

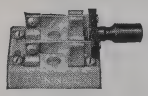
SCHEDULE B-1

TRUMBULL SWITCHES

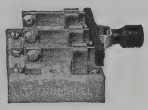
TELEPHONE OR BATTERY SWITCHES

FRONT CONNECTIONS—MOUNTED

30 Amperes, 125 Volts



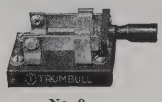
No. 709



No. 711

Porcelain Base

Cat. No.	Style	Size, In. Lgth.	Size, In. Wdth.	Std. Pkg.	Approx. Wt. Lbs.	List Price
707	S.P.S.T.	2 7/16	1¼	10	¼	$1.05
708	S.P.D.T.	3 5/8	1 7/16	5	¼	1.40
709	D.P.S.T.	2 7/16	2	10	½	1.60
710	D.P.D.T.	3 5/8	2	5	½	2.05
711	3 P.S.T.	2 7/16	3¼	5	½	2.55
712	3 P.D.T.	3 5/8	3¼	5	1	3.20



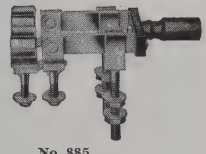
No. 9

Fibre Base

7	S.P.S.T.	2½x1⅛	20	¼	$1.50
8	S.P.D.T.	3¾x1⅛	10	¼	1.80
9	D.P.S.T.	2½x2	10	½	2.15
10	D.P.D.T.	3¾x2	10	½	2.75
40	3 P.S.T.	2½x3¼	10	½	3.20
41	3 P.D.T.	3¾x3¼	10	½	4.45
42	4 P.S.T.	2½x4⅜	10	½	4.90
43	4 P.D.T.	3¾x4⅜	10	1	7.00

BACK CONNECTIONS—UNMOUNTED

No. 783



No. 885

No Fuse—Plain Finish

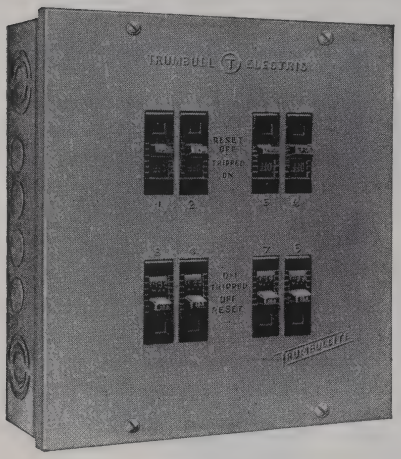
Cat. No.	Style	Std. Pkg.	Approx. Wt. Lbs.	List Price
783	S.P.S.T.	50	¼	$1.40
784	S.P.D.T.	50	¼	1.65
785	D.P.S.T.	50	¼	2.15
786	D.P.D.T.	25	½	2.75
787	3 P.S.T.	25	½	3.05
788	3 P.D.T.	10	½	4.30
789	4 P.S.T.	10	½	4.45
790	4 P.D.T.	10	¾	5.70

Fusible—Plain Finish

883	S.P.S.T.	50	¼	1.80
885	D.P.S.T.	25	½	2.75
887	3 P.S.T.	25	1	4.05
889	4 P.S.T.	10	1	5.55

SCHEDULE B

TRUMBULLITE LOAD CENTERS



Here for the first time is a load center that uses a circuit breaker with ALL of these features: Quick-make, Quick-break; plug-in with self-aligning pressure contacts; thermal-magnetic protection; trip free; positive arc quenching; trip indicating handle.

One Single Pole Circuit

1 Phase 2 Wire SN 120 V. AC

Mains	Branches	*Cat. No.	List Price	Raintight Cat. No.	Raintight List Price
40 Amp. Max.	1—15 A.	TQL24010-02	$5.95	TQL24010-02R	$11.70
	1—20 A.	TQL24010-03		TQL24010-03R	
	1—30 A.	TQL24010-04		TQL24010-04R	
	1—40 A.	TQL24010-05		TQL24010-05R	
50 Amp. Max.	1—15 A.	TQL25010-02	$9.25	TQL25010-02R	$17.50
	1—20 A.	TQL25010-03		TQL25010-03R	
	1—30 A.	TQL25010-04		TQL25010-04R	
	1—40 A.	TQL25010-05		TQL25010-05R	
	1—50 A.	TQL25010-06		TQL25010-06R	

Two Single Pole Branch Circuits

1 Phase 3 Wire SN 120/240 V. AC or 2 Wire SN 120 V. AC

Mains	Branches	*Cat. No.	List Price	Raintight Cat. No.	Raintight List Price
40 Amp. Max.	2—15 A.	TQL24020-22	$8.25	TQL24020-22R	$14.00
	1—15 A. and 1—20 A.	TQL24020-23		TQL24020-23R	
	2—20 A.	TQL24020-33		TQL24020-33R	
	2—30 A.	TQL24020-44		TQL24020-44R	
	2—40 A.	TQL24020-55		TQL24020-55R	
50 Amp. Max.	2—15 A.	TQL25020-22	$11.55	TQL25020-22R	$19.80
	1—15 A and 1—20 A.	TQL25020-23		TQL25020-23R	
	2—20 A.	TQL25020-33		TQL25020-33R	
	2—30 A.	TQL25020-44		TQL25020-44R	
	2—40 A.	TQL25020-55		TQL25020-55R	
	2—50 A.	TQL25020-66		TQL25020-66R	

One Double Pole Circuit

Mains	Branches	*Cat. No.	List Price	Raintight Cat. No.	Raintight List Price
1 Phase 3 Wire SN 120/240 V. AC					
40 Amp. Max.	1—15 A.	TQL24001-22	$8.25	TQL24001-22R	$14.00
	1—20 A.	TQL24001-33		TQL24001-33R	
	1—30 A.	TQL24001-44		TQL24001-44R	
	1—40 A.	TQL24001-55		TQL24001-55R	
50 Amp. Max.	1—15 A.	TQL25001-22	$11.55	TQL25001-22R	$19.80
	1—20 A.	TQL25001-33		TQL25001-33R	
	1—30 A.	TQL25001-44		TQL25001-44R	
	1—40 A.	TQL25001-55		TQL25001-55R	
	1—50 A.	TQL25001-66		TQL25001-66R	
1 Phase 2 Wire No Neutral 120/240 V. AC					
40 Amp. Max.	1—15 A.	TQL24101-22	$7.70	TQL24101-22R	$13.50
	1—20 A.	TQL24101-33		TQL24101-33R	
	1—30 A.	TQL24101-44		TQL24101-44R	
	1—40 A.	TQL24101-55		TQL24101-55R	
50 Amp. Max.	1—15 A.	TQL25101-22	$11.00	TQL25101-22R	$19.25
	1—20 A.	TQL25101-33		TQL25101-33R	
	1—30 A.	TQL25101-44		TQL25101-44R	
	1—40 A.	TQL25101-55		TQL25101-55R	
	1—50 A.	TQL25101-66		TQL25101-66R	

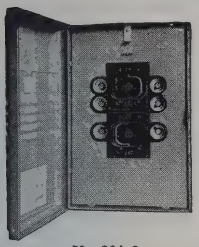
*Catalog Number and List Price includes Box, Interior, Breakers and Cover Packed as complete unit. Specify Flush or Surface by adding F or S to catalog number.

TRUMBULLITE LOAD CENTERS—4 THROUGH 20 CIRCUITS

Max. No. of S.P. Circuits	Mains	Service	*Additional Breaker Space	General Purpose Enclosure Cat. No. Includes Box, interior and 2—15 Amp. S. P. breakers less front	Std. Pkg.	List Price Each	Cat. No. of Front Flush	Cat. No. of Front Surface	Std. Pkg.	List Price Each	Raintight Enclosure Cat. No. Includes Box, hinged cover, interior with 2—15 Amp. single pole breakers	List Price Each
4	70 Amp. Max.	1 Phase 3 wire SN 120/240 V. AC or 1 Phase 2 wire SN 120 V. AC	2 S.P.	TQL47020	5	$10.80	TQL47F	TQL47S	5	$1.65	TQL47020R	$19.80
8	70 Amp. Max.	1 Phase 3 wire SN 120/240 V. AC	6 S.P.	TQL87020	5	14.25	TQL87F	TQL87S	5	1.95	TQL87020R	24.20
	100 Amp. Max.			TQL81020		16.50	TQL81F	TQL81S	5	2.20	TQL81020R	28.00
12	100 Amp. Max.	1 Phase 3 wire SN 120/240 V. AC	10 S.P.	TQL121020	1	26.40	TQL121F	TQL121S	5	5.50	TQL12020R	61.00
		3 Phase 4 wire SN 120/208 V. AC		TQL1214020		35.00					TQL-1214020R	69.00
20	100 Amp. Max.	1 Phase 3 wire SN 120/240 V. AC	18 S.P.	TQL201020	1	40.00	TQL201F	TQL201S	5	8.80	TQL201020R	83.00
		3 Phase 4 wire SN 120/208 V. AC		TQL2014020		46.00					TQL2014020R	91.00

*Additional breakers listed on another page.

TRUMBULL SERVICE EQUIPMENT



No. 224-6

FUSE-PULLER SWITCHES
Single Phase, 3 Wire 125/250 V. AC
For Entrance and Load Side Service
Sequence: M—S—F
Grounded Neutral

Conduit knockouts in top.

Solderless connectors, standard.

Finish: Medium light grey.

Amp.	60 Amp. Mains Poles	Blades	Fused Poles	Branches 60A 3PSN	30A Plug	Surface Cat. No.	Surface List Each	Flush Cat. No.	Flush List Each
	Main Disconnect Only								
60	3	2	2	..	0	2907	$12.50	2909	$12.50
	3	2	2	..	4	2907-4	14.40	2909-4	14.40
	3	2	2	..	6	2907-6	18.65	2909-6	18.65
	3	2	2	..	8	2907-8	26.60	2909-8	26.60
	Main and Range Puller Wired in Series								
	3	2	2	1	4	224-4	16.45	224-4F	16.45
	3	2	2	1	6	224-6	24.00	224-6F	24.00
	3	2	2	1	8	224-8	32.00	224-8F	32.00
	Main and Range Puller Wired in Parallel								
	3	2	2	1	4	*226-4	16.45	*226-4F	16.45
	3	2	2	1	6	*226-6	24.00	*226-6F	24.00
	3	2	2	1	8	226-8	32.00	226-8F	32.00
100	3	2	2	1	8	†229-8	32.00	†229-8F	32.00
	100 Ampere Main Puller								
	3	2	2	..	..	4607	30.00	4609	33.00

*Equipped with main solderless lugs for No. 14—No. 1/0 wire.

†100 ampere gutters and No. 14—No. 1/0 main solderless lugs.

METER SERVICE ENTRANCE SWITCHES

Switch-Meter-Fuse

Accessible Fuses
Meter End Walls

Finish: Medium light grey. Testing facilities.

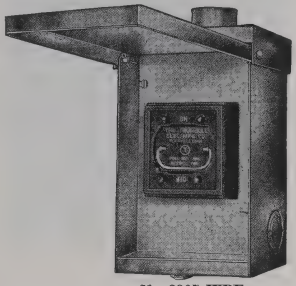
No. 39322

Amp.	Mains Poles	Blades	Fuses	Voltage AC	Cat. No.	Approx. Wt., Lbs.	List Each
	Plug Fuses						
30	2	1	1	125	39111	9	$11.00
	3	2	2	125/250	39311	9	13.80
	Cartridge Fuses						
60	3	2	2	230	39322	14	23.00
	4	3	3	230	39622	17	55.00
100	3	2	2	230	39323	21	41.00
	4	3	3	230	39623	34	117.00
200	3	2	2	230	39324	40	110.00
	4	3	3	230	39624	49	158.00

TRUMBULL SERVICE EQUIPMENT

FUSE PULLER SWITCHES—RAIN TIGHT
NEMA Type 3
Single Phase 3 Wire—125/250 V. AC

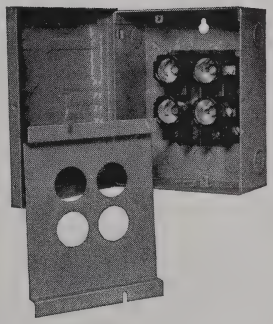
No. 4607-WPE



No. 2907-WPE

Finish: Medium light grey.

Amp.	60 Amp. Mains Poles	Blades	Fused Poles	Branches 60A 3PSN	30A Plug	Conduit in Top	Cat. No.	List Each
	Main Disconnect Only							
60	3	2	2	....	0	.....	2907WP	$17.35
	3	2	2	....	0	1¼	2907WPE	19.60
	Main and Branch Puller Wired in Series							
	3	2	2	1	4	.....	224-4R	24.65
	3	2	2	1	4	1¼	224-4RE	26.90
	3	2	2	1	6	.....	224-6R	37.00
	3	2	2	1	6	1¼	224-6RE	40.00
	Main and Range Puller Wired in Parallel							
	3	2	2	1	4	.....	226-4R	24.65
	3	2	2	1	4	1¼	226-4RE	26.90
	3	2	2	1	6	.....	226-6R	37.00
	3	2	2	1	6	1¼	226-6RE	40.00
	100 Ampere Main Puller							
100	3	2	2	....	0	.....	4607WP	33.00
	3	2	2	....	0	1¼	4607WPE	35.00

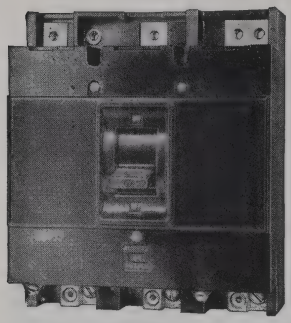


RESIDENCE PANELS

Single plug fuse; dead front shield. Finish: Medium light grey. 125/250 volt AC or DC. 3 wire.

No. of Circuits	Mains 2 or 3 Wire Branches 2 Wire Amp. Cap. Mains	Surface Cat. No.	Flush Cat. No.	List Each	Mains 3 Phase 4 Wire Branches 2 Wire Amp. Cap. Mains	Surface Cat. No.	Flush Cat. No.	List Each
2	30	29A2	29A2F	$ 4.40	....	.....	.....	.....
4	30	29A4	29A4F	6.00	....	.....	.....	.....
6	50	29A6	29A6F	10.00	30	34A6	34A6F	$11.00
8	60	29A8	29A8F	13.55	40	34A8	34A8F	15.00
10	60	29A10	29A10F	19.95	40	34A10	34A10F	22.10
12	60	29A12	29A12F	27.15	40	34A12	34A12F	28.00

TRUMBULL TYPE AT CIRCUIT BREAKERS—LESS ENCLOSURES



Each breaker unit mechanism is encased in a black phenolic case. The operating toggle mechanism is of the quick-make, quick-break type, entirely trip free, so that contacts cannot be held closed against short circuit. Automatic tripping is clearly indicated by the handle which assumes a position between the manual OFF and ON positions.

(†) Non-interchangeable trip units.
(‡) Rated at 277 Volts AC.

Frame Size Amp.	Amp	1 Pole Cat. No.	1 Pole List Price	2 Pole Cat. No.	2 Pole List Price	3 Pole Cat. No.	3 Pole List Price
		125 V. AC or DC		250 AC—125/250 V. DC			
†50 Type AT	15	AT11015	$11.45	AT21015	$ 25.95	AT31015	$ 39.00
	15	‡AT11015L	13.30				
	20	AT11020	11.45	AT21020	25.95	AT31020	39.00
	20	‡AT11020L	13.30				
	30	AT11030	11.45	AT21030	25.95	AT31030	39.00
	40	AT11040	11.45	AT21040	25.95	AT31040	39.00
	50	AT11050	11.45	AT21050	25.95	AT31050	39.00
†100 Type ATB	15			ATB22015	36.00	ATB32015	48.00
	20			ATB22020	36.00	ATB32020	48.00
	30			ATB22030	36.00	ATB32030	48.00
	40			ATB22040	36.00	ATB32040	48.00
	50			ATB22050	36.00	ATB32050	48.00
	70			ATB22070	55.00	ATB32070	72.00
	100			ATB22100	55.00	ATB32100	72.00
100 Type ATA	50			ATA22050	72.00	ATA32050	94.00
	70			ATA22070	72.00	ATA32070	94.00
	100			ATA22100	72.00	ATA32100	94.00
225 Type AT	70			AT23070	186.00	AT33070	229.00
	100			AT23100	186.00	AT33100	229.00
	125			AT23125	186.00	AT33125	229.00
	150			AT23150	186.00	AT33150	229.00
	175			AT23175	186.00	AT33175	229.00
	200			AT23200	186.00	AT33200	229.00
	225			AT23225	186.00	AT33225	229.00
600 Type AT	125			AT24125	503.00	AT34125	636.00
	150			AT24150	503.00	AT34150	636.00
	175			AT24175	503.00	AT34175	636.00
	200			AT24200	503.00	AT34200	636.00
	225			AT24225	503.00	AT34225	636.00
	250			AT24250	503.00	AT34250	636.00
	275			AT24275	503.00	AT34275	636.00
	300			AT24300	503.00	AT34300	636.00
	350			AT24350	503.00	AT34350	636.00
	400			AT24400	503.00	AT34400	636.00
	500			AT24500	503.00	AT34500	636.00
	600			AT24600	503.00	AT34600	636.00

Frame Size Amp.	Amps.	2 Pole Cat. No.	2 Pole List Price	3 Pole Cat. No.	3 Pole List Price
		600 V. AC—250 V. DC		600 V. AC	
†100 Type ATB	15	ATB26015	$ 57.00	ATB36015	$ 48.00
	20	ATB26020	57.00	ATB36020	48.00
	30	ATB26030	57.00	ATB36030	48.00
	40	ATB26040	57.00	ATB36040	48.00
	50	ATB26050	57.00	ATB36050	48.00
	70	ATB26070	76.00	ATB36070	72.00
	100	ATB26100	76.00	ATB36100	72.00
100 Type ATA	50	ATA26050	89.00	ATA36050	118.00
	70	ATA26070	89.00	ATA36070	118.00
	100	ATA26100	89.00	ATA36100	118.00
225 Type AT	70	AT27070	224.00	AT37070	278.00
	100	AT27100	224.00	AT37100	278.00
	125	AT27125	224.00	AT37125	278.00
	150	AT27150	224.00	AT37150	278.00
	175	AT27175	224.00	AT37175	278.00
	200	AT27200	224.00	AT37200	278.00
	225	AT27225	224.00	AT37225	278.00
		600 V. AC—250 V. DC		600 V. AC	
600 Type AT	125	AT28125	540.00	AT38125	686.00
	150	AT28150	540.00	AT38150	686.00
	175	AT28175	540.00	AT38175	686.00
	200	AT28200	540.00	AT38200	686.00
	225	AT28225	540.00	AT38225	686.00
	250	AT28250	540.00	AT38250	686.00
	275	AT28275	540.00	AT38275	686.00
	300	AT28300	540.00	AT38300	686.00
	350	AT28350	540.00	AT38350	686.00
	400	AT28400	540.00	AT38400	686.00
	500	AT28500	540.00	AT38500	686.00
	600	AT28600	540.00	AT38600	686.00

Schedule B-3

TYPE TQ THERMAL MAGNETIC CIRCUIT BREAKERS

Type TQ Circuit Breakers with ratings 10 to 50 amps., single pole, 120 V. AC and double pole 120/240 V. AC are available to meet, more closely, the conditions encountered in the protection of general lighting and appliance branch circuits.

Rating Ampere	1 Pole—120 V. AC Cat. No.	Wt. Lb. Each	List Price	*2 Pole—120/240 V. AC Cat. No.	Wt. Lb. Each	List Price
10	TQ1110	¾	$5.45	TQ2110	1½	$10.90
15	TQ1115	¾	5.45	TQ2115	1½	10.90
20	TQ1120	¾	5.45	TQ2120	1½	10.90
30	TQ1130	¾	5.45	TQ2130	1½	10.90
40	TQ1140	¾	5.45	TQ2140	1½	10.90
50	TQ1150	¾	5.45	TQ2150	1½	10.90

*Two pole breakers for 120/240 V. AC service consist of two single pole breakers with handle extensions, which clamp over operating handle and serve as a means of indication only. Tripping is independent for each breaker.
HL-101 Handle Lock-off. List price **$0.60** each.
HT-100 Handle Extensions for 2-pole operation — when ordered individually. List price, **$0.40** each.

Schedule B-3

TQL PLUG-IN BREAKERS

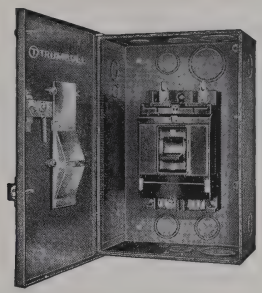
- Quick Make, Quick Break.
- Thermal Magnetic.
- Trip-free.
- Trip-indicating.
- Positive Arc-quenching.
- Completely Tamper-proof.

Amp. Cap.	Cat. No.	List Price
15	TQL 1115	$2.30
20	TQL 1120	2.30
30	TQL 1130	2.30
40	TQL 1140	2.30
50	TQL 1150	2.30

HL-101 Handle Lock-off. List price **$0.60** each
HT-100 Handle Extension for 2 pole operation, when ordered individually. List price **$0.40** each.

Schedule B-5

TRUMBULL ENCLOSED CIRCUIT BREAKERS



Sheet Steel—Dust-Resisting
NEMA Type 1A

AUTOMATIC OVERLOAD PROTECTION—QUICK MAKE AND QUICK BREAK SHEET STEEL ENCLOSURES

Finish: Medium Light Grey

Frame size amp.	Amps.	Sheet Steel Dust Resisting Enclosures NEMA Type 1A — 250 V. A. C.—125/250 V. D. C. — 2 Pole Cat. No.	List	3 Pole Cat. No.	List	Sheet Steel Enclosures, Solid Neutral with Lugs for Grounded Neutral — Surface Mounting—NEMA Type 1 — 125/250 V. A. C. — 2 Pole 3W. Cat. No.	List	250 V. A. C. — 3 Pole 4W. Cat. No.	List	Flush Mounting—NEMA Type 1B
‡50 Type AT	15	AT21015G	$36.00	AT31015G	$50.00	AT21015NS	$41.00	AT31015NS	$55.00	
	20	AT21020G	36.00	AT31020G	50.00	AT21020NS	41.00	AT31020NS	55.00	
	30	AT21030G	36.00	AT31030G	50.00	AT21030NS	41.00	AT31030NS	55.00	
	40	AT21040G	36.00	AT31040G	50.00	AT21040NS	41.00	AT31040NS	55.00	
	50	AT21050G	36.00	AT31050G	50.00	AT21050NS	41.00	AT31050NS	55.00	
‡100 Type ATB	70	ATB22070G	70.00	ATB32070G	89.00	ATB22070NS	80.00	ATB32070NS	97.00	
	100	ATB22100G	70.00	ATB32100G	89.00	ATB22100NS	80.00	ATB32100NS	97.00	
100 Type ATA	50	ATA22050G	85.00	ATA32050G	106.00					Flush Type enclosures—Prices and dimensional information on request.
	70	ATA22070G	85.00	ATA32070G	106.00					
	100	ATA22100G	85.00	ATA32100G	106.00					
225 Type AT	70	AT23070G	204.00	AT33070G	244.00	AT23070NS	217.00	AT33070NS	256.00	
	100	AT23100G	204.00	AT33100G	244.00	AT23100NS	217.00	AT33100NS	256.00	
	125	AT23125G	204.00	AT33125G	244.00	AT23125NS	217.00	AT33125NS	256.00	
	150	AT23150G	204.00	AT33150G	244.00	AT23150NS	217.00	AT33150NS	256.00	
	175	AT23175G	204.00	AT33175G	244.00	AT23175NS	217.00	AT33175NS	256.00	
	200	AT23200G	204.00	AT33200G	244.00	AT23200NS	217.00	AT33200NS	256.00	
	225	AT23225G	204.00	AT33225G	244.00	AT23225NS	217.00	AT33250NS	256.00	
600 Type AT	225	AT24225G	535.00	AT34225G	661.00	AT24225NS	549.00	AT34225NS	679.00	
	250	AT24250G	535.00	AT34250G	661.00	AT24250NS	549.00	AT34250NS	679.00	
	275	AT24275G	535.00	AT34275G	661.00	AT24275NS	549.00	AT34275NS	679.00	
	300	AT24300G	535.00	AT34300G	661.00	AT24300NS	549.00	AT34300NS	679.00	
	350	AT24350G	535.00	AT34350G	661.00	AT24375NS	549.00	AT34375NS	679.00	
	400	AT24400G	535.00	AT34400G	661.00	AT24400NS	549.00	AT34400NS	679.00	
	500	AT24500G	535.00	AT34500G	661.00	AT24500NS	549.00	AT34500NS	679.00	
	600	AT24600G	535.00	AT34600G	661.00	AT24600NS	549.00	AT34600NS	679.00	
		600 V. A. C.—250 V. D. C.								
‡100 Type ATB	15	ATB26015G	$67.00	ATB36015G	$84.00					
	20	ATB26020G	67.00	ATB36020G	84.00					
	30	ATB26030G	67.00	ATB36030G	84.00					
	40	ATB26040G	67.00	ATB36040G	84.00					
	50	ATB26050G	67.00	ATB36050G	84.00					
	70	ATB26070G	92.00	ATB36070G	110.00					
	100	ATB26100G	92.00	ATB36100G	110.00					
100 Type ATA	50	ATA26050G	103.00	ATA36050G	132.00					
	70	ATA26070G	103.00	ATA36070G	132.00					
	100	ATA26100G	103.00	ATA36100G	132.00					
225 Type AT	70	AT27070G	238.00	AT37070G	293.00					
	100	AT27100G	238.00	AT37100G	293.00					
	125	AT27125G	238.00	AT37125G	293.00					
	150	AT27150G	238.00	AT37150G	293.00					
	175	AT27175G	238.00	AT37175G	293.00					
	200	AT27200G	238.00	AT37200G	293.00					
	225	AT27225G	238.00	AT37225G	293.00					
600 Type AT	225	AT28225G	569.00	AT38225G	712.00					
	250	AT28250G	569.00	AT38250G	712.00					
	275	AT28275G	569.00	AT38275G	712.00					
	300	AT28300G	569.00	AT38300G	712.00					
	350	AT28350G	569.00	AT38350G	712.00					
	400	AT28400G	569.00	AT38400G	712.00					
	500	AT28500G	569.00	AT38500G	712.00					
	600	AT28600G	569.00	AT38600G	712.00					

NOTES

Solderless Lugs: Standard on all Enclosed Circuit Breakers.

Single Pole—Dust-Resisting Enclosures NEMA Type 1A 125 V. A. C. or D. C.

Frame	Amps.	Cat. No.	List
50	15	AT11015G	$22.60
	20	AT11020G	22.60
	30	AT11030G	22.60
	40	AT11040G	22.60
	50	AT11050G	22.60

SPECIAL FINISHES

For Sheet Steel Enclosures

Cadmium Plated or Electro Galvanized

Frame Size	List
50	$7.30
100	15.40
225	19.30
600	36.00

For Galvanized Cast Enclosures or Hot Dip Galvanized Refer to Factory

Drilling and Tapping Cast Enclosures Other than Standard

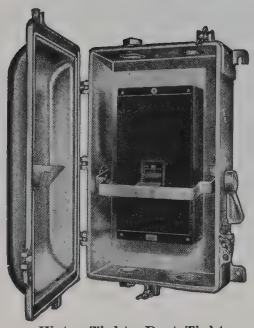
1¼″ or less....$7.30
1½″ to 3″.....15.40
3½″ or larger..22.60

‡Non-Interchangeable Trips.

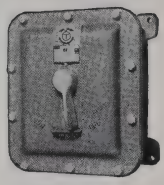
TRUMBULL ENCLOSED CIRCUIT BREAKERS

WATER-TIGHT, DUST-TIGHT AND HAZARDOUS AUTOMATIC OVERLOAD PROTECTION

Finish: Medium Light Grey



Water-Tight—Dust-Tight
NEMA Types 4 and 5



Explosion-Proof
NEMA Type 7

*Enclosure for Class I, Group D, applications are tested and listed by the Underwriters' Laboratories at a maximum rating of 250 V AC or DC even though the Circuit Breakers themselves are UL approved up to 600V AC — 250V DC. In explanation, it is the maximum voltage that UL are equipped to test.

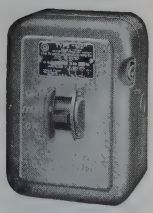
Enclosed Breakers up to 225 Amp. are rated by Trumbull for 600V AC — 250V DC service, also UL rated for 250V AC — 250V DC. Enclosures for Breakers over 225 Amp. are designed according to UL standards for Class I, Group D, applications.

Note — Non Automatic Circuit Interruptors for use as a manual disconnecting device, without overload or short circuit protection are available. Prices on request.

Frame Size Amp.	Amps	Water and Dust-tight Cast Iron Enclosures NEMA Types 4 and 5						Hazardous Location Cast Enclosures, Class I Ground D NEMA Type 7					
		125 V. A.C. or D.C.		250 V. A.C.—125-250 V. D.C.				125 V. A.C. or D.C.		250 V. A.C.—25-250 V. D.C.			
		1 Pole Cat. No.	List	2 Pole Cat. No.	List	3 Pole Cat. No.	List	1 Pole Cat. No.	List	2 Pole Car. No.	List	3 Pole Cat. No.	List
‡50 Type AT	15	AT11015C	$55.00	AT21015C	$67.00	AT31015C	$96.00	AT11015E	$65.00	AT21015E	$79.00	AT31015E	$119.00
	20	AT11020C	55.00	AT21020C	67.00	AT31020C	96.00	AT11020E	65.00	AT21020E	79.00	AT31020E	119.00
	30	AT11030C	55.00	AT21030C	67.00	AT31030C	96.00	AT11030E	65.00	AT21030E	79.00	AT31030E	119.00
	40	AT11040C	55.00	AT21040C	67.00	AT31040C	96.00	AT11040E	65.00	AT21040E	79.00	AT31040E	119.00
	50	AT11050C	55.00	AT21050C	67.00	AT31050C	96.00	AT11050E	65.00	AT21050E	79.00	AT31050E	119.00
100 Type ATB	70			ATB22070C	149.00	ATB32070C	168.00			ATB22070E	222.00	ATB32070E	240.00
	100			ATB22100C	149.00	ATB32100C	168.00			ATB22100E	222.00	ATB32100E	240.00
100 Type ATA	50			ATA22050C	221.00	ATA32050C	242.00			ATA22050E	256.00	ATA32050E	279.00
	70			ATA22070C	221.00	ATA32070C	242.00			ATA22070E	256.00	ATA32070E	279.00
	100			ATA22100C	221.00	ATA32100C	242.00			ATA22100E	256.00	ATA32100E	279.00
100 Type AT	70			AT23070C	351.00	AT33070C	389.00			AT23070E	418.00	AT33070E	458.00
	100			AT23100C	351.00	AT33100C	389.00			AT23100E	418.00	AT33100E	458.00
	125			AT23125C	351.00	AT33125C	389.00			AT23125E	418.00	AT33125E	458.00
	150			AT23150C	351.00	AT33150C	389.00			AT23150E	418.00	AT33150E	458.00
	175			AT23175C	351.00	AT33175C	389.00			AT23175E	418.00	AT33175E	458.00
	200			AT23200C	351.00	AT33200C	389.00			AT23200E	418.00	AT33200E	458.00
	225			AT23225C	351.00	AT33225C	389.00			AT23225E	418.00	AT33225E	458.00
600 Type AT	125			AT24225C	982.00	AT34225C	1115.00			AT24225E	1089.00	AT34225E	1233.00
	250			AT24250C	982.00	AT34250C	1115.00			AT24250E	1089.00	AT34250E	1233.00
	275			AT24275C	982.00	AT34275C	1115.00			AT24275E	1089.00	AT34275E	1233.00
	300			AT24300C	982.00	AT34300C	1115.00			AT24300E	1089.00	AT34300E	1233.00
	350			AT24350C	982.00	AT34350C	1115.00			AT24350E	1089.00	AT34350E	1233.00
	400			AT24400C	982.00	AT34400C	1115.00			AT24400E	1089.00	AT34400E	1233.00
	500			AT24500C	982.00	AT34500C	1115.00			AT24500E	1089.00	AT34500E	1233.00
	600			AT24600C	982.00	AT34600C	1115.00			AT24600E	1089.00	AT34600E	1233.00
		600 V. A.C.—250 V. D.C.						*600 V. A.C.—250 V. D.C.					
‡100 Type ATB	15			ATB26015C	$123.00	ATB36015C	$138.00			ATB26015E	$160.00	ATB36015E	$177.00
	20			ATB26020C	123.00	ATB36020C	138.00			ATB26020E	160.00	ATB36020E	177.00
	30			ATB26030C	123.00	ATB36030C	138.00			ATB26030E	160.00	ATB36030E	177.00
	40			ATB26040C	123.00	ATB36040C	138.00			ATB26040E	160.00	ATB36040E	177.00
	50			ATB26050C	123.00	ATB36050C	138.00			ATB26050E	160.00	ATB36050E	177.00
	70			ATB26070C	172.00	ATB36070C	189.00			ATB26070E	243.00	ATB36070E	263.00
	100			ATB26100C	172.00	ATB36100C	189.00			ATB26100E	243.00	ATB36100E	263.00
100 Type ATA	50			ATA26050C	237.00	ATA36050C	266.00			ATA26050E	275.00	ATA36050E	303.00
	70			ATA26070C	237.00	ATA36070C	266.00			ATA26070E	275.00	ATA36070E	303.00
	100			ATA26100C	237.00	ATA36100C	266.00			ATA26100E	275.00	ATA36100E	303.00
225 Type AT	70			AT27070C	388.00	AT37070C	439.00			AT27070E	455.00	AT37070E	507.00
	100			AT27100C	388.00	AT37100C	439.00			AT27100E	455.00	AT37100E	507.00
	125			AT27125C	388.00	AT37125C	439.00			AT27125E	455.00	AT37125E	507.00
	150			AT27150C	388.00	AT37150C	439.00			AT27150E	455.00	AT37150E	507.00
	175			AT27175C	388.00	AT37175C	439.00			AT27175E	455.00	AT37175E	507.00
	200			AT27200C	388.00	AT37200C	439.00			AT27200E	455.00	AT37200E	507.00
	225			AT27225C	388.00	AT37225C	439.00			AT27225E	455.00	AT37225E	507.00
600 Type AT	225			AT28225C	1023.00	AT38225C	1183.00			AT28225E	1132.00	AT38225E	1286.00
	250			AT28250C	1023.00	AT38250C	1183.00			AT28250E	1132.00	AT38250E	1286.00
	275			AT28275C	1023.00	AT38275C	1183.00			AT28275E	1132.00	AT38275E	1286.00
	300			AT28300C	1023.00	AT38300C	1183.00			AT28300E	1132.00	AT38300E	1286.00
	350			AT28350C	1023.00	AT38350C	1183.00			AT28350E	1132.00	AT38350E	1286.00
	400			AT28400C	1023.00	AT38400C	1183.00			AT28400E	1132.00	AT38400E	1286.00
	500			AT28500C	1023.00	AT38500C	1183.00			AT28500E	1132.00	AT38500E	1286.00
	600			AT28600C	1023.00	AT38600C	1183.00			AT28600E	1132.00	AT38600E	1286.00

‡Non-Interchangeable Trip Units.

TRUMBULL MANUAL STARTERS


"MD-5"

"RB"

"RB"

"TT"

"PT" Push Button Size 0

NO OVERLOAD PROTECTION

POLES	VOLTAGE and CURRENT RATINGS		HORSE POWER RATINGS		GENERAL PURPOSE NEMA TYPE 1 ENCLOSURE		WATER TIGHT and DUST TIGHT NEMA 4 and 5 ENCLOSURE		HAZARDOUS CLASS 1 GROUP D ENCLOSURE		FLOAT SWITCH		SWITCH INTERIOR ONLY	
	Amps.	Volts	A.C.	D.C.	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
Type "RB" Tumbler Switch														
2	30 5	250 600	2 2	2 1	2228	$4.35	2228C	$20.80	2228E	$20.80	2228F	$7.60	2228S 2227S†	$3.25 3.25
3	30 20	250 600	2 2		2368	10.80	2368C	27.00	2368E	27.00	.....	.....	2368S	9.70
3 Way	10 5	125 250			2328	4.35	.....	.....	.....	.....	2328F	7.60	2328S	3.25

‡Flush plate for use with switch interior only. **Cat. 1199—$0.75 List Each.**
†For Shallow Type Mounting.

Type "MD-5" Manual Reversing and Double Throw Starters

SIZE 1—MANUAL DOUBLE THROW AC ONLY

			110V	208 230	440 600									
2	20	250	1½	3	5	7260	19.00	.....	.....	.....	.....	.....	.....	7260S	16.70
3	20	600	3	5	7½	7360	21.15	7360C	$71.45	.....	.....	.....	.....	7360S	19.00

SIZE 1—MANUAL REVERSING AC ONLY

2	20	250	1½	3	5	8260	$21.15	.....	.....	.....	.....	.....	.....	8260S	19.00
3	20	600	3	5	7	8360	23.35	8360C	$76.00	.....	.....	.....	.....	8360S	21.15

TYPES "TT" AND "PT" WITH THERMOSTATIC OVERLOAD PROTECTION
Prices Are With Heaters

TYPE	Poles	† HEATER SERIES	HORSE POWER A.C. 115V	230V	440 600V	D.C. 115V	230V	GENERAL PURPOSE ENCLOSURE Toggle Cat. No.	List Each	Push Button Cat. No.	List Each	Water and Dust Tight NEMA 4 & 5 Enclosure Toggle Cat. No.	List Each	Hazardous Location NEMA Type 7 Enclosure Toggle Cat. No.	List Each	Interior Only Cat. No.	List Each
"OO"-"TT"	1	9700															
	2		1	1				1800	$6.90	.....	.....	1800C	$23.10	1880E	$23.10	1800S‡	$5.80
			1	1		1	1	1900	7.70	.....	.....	1900C	23.90	1900E	23.90	1900S‡	6.60
"O"-"PT"	2		1	1½	1½			91201	19.80	91202	19.80	91201C	51.70	91201E	66.00	Toggle	18.20
	3	81D	1½	2	2			91301	22.00	91302	22.00	91301C	53.90	91301E	68.00	or	20.40
	4							91401	33.00	91402	33.00	91401C	64.00	91401E	80.00	Push	31.40
"1"-"PT"	2		1½	3	5			91211	25.30	91212	25.30	91211C	64.00	91211E	78.00	Button	
	3	81D	3	5	7½			91311	27.50	91312	27.50	91311C	66.00	91311E	80.00	Add S	23.10
	4							91411	38.50	91412	38.50	91411C	78.00	91411E	90.00	to	25.30
																Cat. No.	36.30
*D Loom	3	81D	1½	2	2			91303	22.00	.....	.....	.....	.....	.....	.....	91301S	20.40

†When ordering heaters select the heater series identical to or next larger than ampere on motor. One required for 2 Pole, two for 3 pole devices.
‡Flush plate for use with switch interior only. **Cat. 1199—$0.75 List Each.**
*Pedestal for Loom Switch—Single Mounting for Nema 1 Enclosure—**Cat. No. 72A1 $5.50 List Each.**

SCHEDULE MS

RELAY HEATERS FOR PT MANUAL STARTERS

For use with continuously rated Motors. Heaters are included in control equipment prices but should be ordered separately. One required with 2 Pole, 2 with 3 & 4 Pole devices. Specify catalog number of heaters required.

Selection Instructions for Types PT 2 and PT 7½

When necessary to change heaters, select from table. To prevent overloading the starter do not select heaters for motor of larger rating than the maximum given on starter nameplate. To protect heater and starter during short circuit, provide motor branch circuit protection in accordance with N.E. code. In no case should the fuse rating exceed 3.5 times the motor full load current. For continuous rated 40 deg. C. rise motors, except high resistance rotor types (KR) select heaters from table. For continuous rated 50 and 55 deg. C. rise and 40 deg. C. rise high resistance rotor motors, multiply the full load current of motor by 0.90 and use this value to select heater from table. This provides 115% protection.

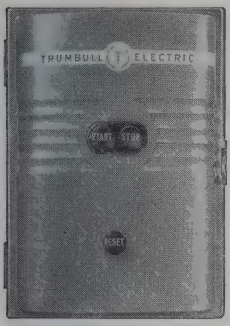
For group fusing place ahead of starter, fuses rated in the proper table.

Selection Instructions for Loom Switch

The table gives the proper size of heater to trip the switch on approximately 140 per cent motor current in an ambient of 40 deg. C. (104 deg. F.). For motors requiring 125 per cent protection, multiply rated motor current by 0.89 and use value obtained to select proper heater from table. Do not overload the starter by selecting heaters for a motor of larger H.P. rating than the maximum given on starter nameplate. To protect heaters against melting during short circuit, place ahead of starter fuses rated at not over 3.5 times full load current of motor. For group fusing (to protect against fire hazard only) place ahead of the starter fuses rated as in table.

HEATERS FOR GENERAL USE (Not For Loom Switch)			HEATERS FOR GROUP FUSING										
	Motor Current Amperes For Heaters When Used With			Motor Current Amperes For Heaters When Used With									
					Max. Fuse Rating			Max. Fuse Rating			Max. Fuse Rating		
Heater Catalog Number	Sizes 0 and 1 2 Pole	Sizes 0 and 1 3 & 4 Pole	Heater Catalog Number	Size 0 2 Pole	110–220 V.	440–550 V.	Size 0 3 & 4 Pole	110–220 V.	440–550 V.	Loom Switch	110–220 V.	440–550 V.
81D228	.35 – .38	.34 – .36	81D274	.35 – .38	60	30	.34 – .36	60	30	.29 – .31	60	30
81D224	.39 – .43	.37 – .39	81D600	.39 – .43	60	30	.37 – .39	60	30	.32 – .33	60	30
81D225	.44 – .46	.40 – .43	81D601	.44 – .46	60	30	.40 – .43	60	30	.34 – .37	60	30
81D230	.47 – .50	.44 – .48	81D276	.47 – .50	60	30	.44 – .48	60	30	.38 – .40	60	30
81D525	.51 – .57	.49 – .53	81D602	.51 – .57	60	30	.49 – .53	60	30	.41 – .45	60	30
81D231	.58 – .63	.54 – .59	81D277	.58 – .63	60	30	.54 – .59	60	30	.46 – .50	60	30
81D526	.64 – .70	.60 – .65	81D603	.64 – .70	60	30	.60 – .65	60	30	.51 – .55	60	30
81D527	.71 – .76	.66 – .71	81D604	.71 – .76	60	30	.66 – .71	60	30	.56 – .60	60	30
81D233	.77 – .83	.72 – .78	81D279	.77 – .83	60	30	.72 – .78	60	30	.61 – .65	60	30
81D528	.84 – .92	.79 – .88	81D605	.84 – .92	60	30	.79 – .88	60	30	.66 – .73	60	30
81D235	.93 – 1.06	.89 – 1.00	81D281	.93 – 1.06	60	30	.89 – 1.00	60	30	.74 – .84	60	30
81D529	1.07 – 1.12	1.01 – 1.06	81D606	1.07 – 1.12	60	30	1.01 – 1.06	60	30	.85 – .89	60	30
81D530	1.13 – 1.24	1.07 – 1.17	81D607	1.13 – 1.24	60	30	1.07 – 1.17	60	30	.90 – .98	60	30
81D531	1.25 – 1.36	1.18 – 1.29	81D608	1.25 – 1.36	60	30	1.18 – 1.29	60	30	.99 – 1.08	60	30
81D238	1.37 – 1.52	1.30 – 1.43	81D284	1.37 – 1.52	60	30	1.30 – 1.43	60	30	1.09 – 1.20	60	30
81D532	1.53 – 1.66	1.44 – 1.60	81D609	1.53 – 1.66	60	30	1.44 – 1.60	60	30	1.21 – 1.31	60	30
81D533	1.67 – 1.84	1.61 – 1.74	81D610	1.67 – 1.84	60	30	1.61 – 1.74	60	30	1.32 – 1.46	60	30
81D534	1.85 – 2.02	1.75 – 1.91	81D611	1.85 – 2.02	60	30	1.75 – 1.91	60	30	1.47 – 1.60	60	30
81D535	2.03 – 2.20	1.92 – 2.08	81D612	2.03 – 2.20	60	30	1.92 – 2.08	60	30	1.61 – 1.75	60	30
81D536	2.21 – 2.42	2.09 – 2.28	81D613	2.21 – 2.42	60	30	2.09 – 2.28	60	30	1.76 – 1.91	60	30
81D537	2.43 – 2.68	2.29 – 2.52	81D614	2.43 – 2.68	60	30	2.29 – 2.52	60	30	1.92 – 2.10	60	30
81D538	2.69 – 2.96	2.53 – 2.79	81D615	2.69 – 2.96	60	30	2.53 – 2.79	60	30	2.11 – 2.34	60	30
81D539	2.97 – 3.24	2.80 – 3.05	81D616	2.97 – 3.24	60	30	2.80 – 3.05	60	30	2.35 – 2.55	60	30
81D540	3.25 – 3.53	3.06 – 3.32	81D617	3.25 – 3.53	60	30	3.06 – 3.32	60	30	2.56 – 2.80	60	30
81D541	3.54 – 3.86	3.33 – 3.64	81D618	3.54 – 3.86	100	30	3.33 – 3.64	100	30	2.81 – 3.06	60	30
81D542	3.87 – 4.25	3.65 – 4.00	81D619	3.87 – 4.25	100	30	3.65 – 4.00	100	30	3.07 – 3.36	60	30
81D543	4.26 – 4.65	4.01 – 4.39	81D620	4.26 – 4.65	100		4.01 – 4.39	100		3.37 – 3.69	100	30
81D544	4.66 – 5.12	4.40 – 4.85	81D621	4.66 – 5.12	100		4.40 – 4.85	100		3.70 – 4.05	100	
81D545	5.13 – 5.61	4.86 – 5.30	81D622	5.13 – 5.61	100		4.86 – 5.30	100		4.06 – 4.45	100	
81D546	5.62 – 6.15	5.31 – 5.80	81D623	5.62 – 6.15	100		5.31 – 5.80	100		4.46 – 4.85	100	
81D547	6.16 – 6.76	5.81 – 6.44	81D624	6.16 – 6.76	100		5.81 – 6.44	100		4.86 – 5.36	100	
81D548	6.77 – 7.43	6.45 – 7.00	81D625	6.77 – 7.43	100		6.45 – 7.00	100		5.37 – 5.85	100	
81D549	7.44 – 8.13	7.01 – 7.65	81D626	7.44 – 8.13	100		7.01 – 7.65	100		5.86 – 6.42	100	
81D550	8.14 – 8.98	7.66 – 8.40	81D627	8.14 – 8.98	100		7.66 – 8.40	100		6.43 – 7.05	100	
81D551	8.99 – 9.73	8.41 – 9.20	81D628	8.99 – 9.73	100		8.41 – 9.20	100		7.06 – 7.70	100	
81D552	9.74 – 10.7	9.21 – 10.19	81D629	9.74 – 10.7	100		9.21 – 10.19	100		7.71 – 8.50	100	
81D553	10.8 – 11.7	10.20 – 11.04	81D630	10.8 – 11.7	100		10.20 – 11.04	100		8.51 – 9.30	100	
81D554	11.8 – 12.9	11.05 – 12.19	81D631	11.8 – 12.9	100		11.05 – 12.19	100		9.31 – 10.2	100	
81D555	13.0 – 14.1	12.20 – 13.29	81D632	13.0 – 14.1	100		12.20 – 13.29	100		10.3 – 11.1	100	
81D556	14.2 – 15.4	13.30 – 14.44	81D633	14.2 – 15.4	100		13.30 – 14.44	100		11.2 – 12.0	100	
81D557	15.5 – 16.7	14.45 – 15.84	81D634	15.5 – 16.7	100		14.45 – 15.84	100		12.1 – 13.2	100	
	Size 1 Only	Size 1 Only								13.3 – 14.4	100	
81D267	16.8 – 18.3	15.85 – 17.14	81D635							14.5 – 15.8	100	
81D256	18.4 – 19.8	17.15 – 18.69	81D636							15.9 – 17.0	100	
81D558	19.9 – 21.6	18.70 – 20.20	81D637							17.1 – 18.2	100	
81D559	21.7 – 22.2	20.21 – 21.70	81D638									

TRUMBULL MAGNETIC NON-REVERSING STARTERS AND CONTACTORS—TYPE HM



Across-the-Line Type for Single and Polyphase AC Service

Low Voltage Protection

Finish — Machine Grey

Type HM is Trumbull's new "packaged control." Certain components, like extra overload relays, auxiliary contacts, extra interlocks, push-button stations and transformers are packaged separately and may be installed in the field.

Size	Type	Maximum Horse Power ‡ 60 CYCLE Polyphase 110 V.	Polyphase 208-220 V.	Polyphase 440-600 V.	Single Phase 110 V.	Single Phase 208-220 V.	Pole	110V.A.C. Separate Control Circuit 110 600 V.A.C. Line Voltage	208-220 V. A.C.	440V A.C.	550-600V A.C.	LIST WITH HEATERS General Purpose NEMA Type 1 (Use Listed Cat. No.)	LIST WITH HEATERS Interior Only Add S to Catalog No.
Across-the-line Starter—Remote Control—No Push Button Included—*Self Reset Thermostatic Overload Protection													
0	HM-2	1½	2	2	1	1½	2	H02A1	H02A5	H02D1	H02E1	$33.00	$30.30
							3	H03A1	H03A5	H03D1	H03E1	38.50	35.80
							4	H04A1	H04A5	H04D1	H04E1	46.80	44.00
1	HM7½	3	5	7½	1½	3	2	H12A1	H12A5	H12D1	H12E1	38.50	35.80
							3	H13A1	H13A5	H13D1	H13E1	44.00	41.30
							4	H14A1	H14A5	H14D1	H14E1	52.30	49.50
2	HM25	7½	15	25	3	7½	3	H23A1	H23A5	H23D1	H23E1	84.00	74.00
3	HM50	15	30	50	7½	15	3	H33A1	H33A5	H33D1	H33E1	138.00	118.00
Across-the-line Contactor—No overload Protection													
0	HM-2	1½	2	2	1	1½	2	HC02A1	HC02A5	HC02D1	HC02E1	27.50	24.80
							3	HC03A1	HC03A5	HC03D1	HC03E1	30.30	27.50
							4	HC04A1	HC04A5	HC04D1	HC04E1	38.50	35.80
1	HM7½	3	5	7½	1½	3	2	HC12A1	HC12A5	HC12D1	HC12E1	33.00	30.30
							3	HC13A1	HC13A5	HC13D1	HC13E1	35.80	33.00
							4	HC14A1	HC14A5	HC14D1	HC14E1	44.00	41.30
2	HM25	7½	15	25	3	7½	3	HC23A1	HC23A5	HC23D1	HC23E1	68.00	60.00
3	HM50	15	30	50	7½	15	3	HC33A1	HC33A5	HC33D1	HC33E1	118.00	100.00

‡Starters for special frequencies and voltages — Specify motor rating, cycles, poles, and voltages.

*Change to Hand Reset through cover accomplished by simple movement of spring lever on relay unit.

Catalog number 2250, "Start-Stop" Push Button Station—Standard General Purpose (NEMA Type 1) enclosure—available for use with magnetic starters and contactors. List each **$5.60**. Other Push Button Stations available, see Trumbull Catalog.

Heater units—use 81D—Series. One required with 2 pole, two required with 3 and 4 pole.

Type CM Starters will be supplied in Water- and Dust-tight and Hazardous Location enclosures until 1952, when Type HM will be available. For up-to-date information consult our office.

Discount Schedule MS

TRUMBULL MAGNETIC REVERSING STARTERS AND CONTACTORS TYPE HM

Across-the-Line Type for Single and Polyphase AC Service

Low Voltage Protection

Finish — Machine Grey

REVERSING STARTERS — WITH *SELF RESET THERMOSTATIC OVERLOAD PROTECTION

Size	Type	Maximum Horse Power 60 Cycles						Pole	110V AC Separate Control Circuit 110-600V AC Line Voltage	208-220 V. A. C.	440V A. C.	550-600 V A. C.	General Purpose NEMA Type 1 (Use Listed Cat No.)	Interior Only Add S to Catalog Number
		Polyphase			Single Phase									
		110 V.	208 220 V.	440 600 V.	110 V.	208 220 V.	440 600 V.							
Remote Control — No Pushbutton Included														
0	HM2	1½	2	2	1	1½	1½	2	HR02A1	HR02A5	HR02D1	HR02E1	$74.00	$72.00
								3	HR03A1	HR03A5	HR03D1	HR03E1	84.00	80.00
								4	HR04A1	HR04A5	HR04D1	HR04E1	100.00	96.00
1	HM7½	3	5	7½	1½	3	5	2	HR12A1	HR12A5	HR12D1	HR12E1	88.00	84.00
								3	HR13A1	HR13A5	HR13D1	HR13E1	96.00	90.00
								4	HR14A1	HR14A5	HR14D1	HR14E1	112.00	108.00
2	HM25	7½	15	25	3	7½	10	3	HR23A1	HR23A5	HR23D1	HR23E1	184.00	168.00
3	HM50	15	30	50	7½	15	25	3	HR33A1	HR33A5	HR33D1	HE33E1	288.00	260.00

REVERSING CONTACTORS — NO OVERLOAD PROTECTION

0	HM2	1½	2	2	1	1½	1½	2	HRC02A1	HRC02A5	HRC02D1	HRC02E1	68.00	66.00
								3	HRC03A1	HRC03A5	HRC03D1	HRC03E1	74.00	72.00
								4	HRC04A1	HRC04A5	HRC04D1	HRC04E1	90.00	88.00
1	HM7½	3	5	7½	1½	3	5	2	HRC12A1	HRC12A5	HRC12D1	HRC12E1	84.00	78.00
								3	HRC13A1	HRC13A5	HRC13D1	HRC13E1	88.00	84.00
								4	HRC14A1	HRC14A5	HRC14D1	HRC14E1	106.00	100.00
2	HM25	7½	15	25	3	7½	10	3	HRC23A1	HRC23A5	HRC23D1	HRC23E1	166.00	150.00
3	HM50	15	30	50	7½	15	25	3	HRC33A1	HRC33A5	HRC33D1	HRC33D1	270.00	240.00

#Starters for special frequencies and voltages — Specify motor rating, cycles, poles, and voltages.

*Change to Hand Reset through cover accomplished by simple movement of spring lever on relay unit.

Catalog number 2250, "Start-Stop" Push Button Station—Standard General Purpose (NEMA Type 1) enclosure—available for use with magnetic starters and contactors. List each **$5.60**. Other Push Button Stations available (see Trumbull Catalog.)

Heater units—use 81D—Series. One required with 2 pole, two required with 3 and 4 pole.

Type CM Starters will be supplied in Water- and Dust-tight and Hazardous Location enclosures until 1952, when Type HM will be available. For up-to-date information consult our office.

TRUMBULL COMBINATION MAGNETIC STARTERS—TYPE HM

Across-the-Line Type for Single and Polyphase AC Service

- Hand reset through cover or automatic reset — accomplished through simple movement of spring lever on relay unit.
- Heater units — use 81D — series. One required with 2 pole, two required with 3 and 4 pole.
- Push button stations. Catalog number 2250, "start-stop" in General Purpose (NEMA Type 1) enclosure. List each **$3.70**. Other styles also available.
- Starters for special frequencies — specify motor rating, cycles, poles and voltages.

LIST PRICES ARE WITH HEATERS

WITH FUSIBLE DISCONNECT

Size	Type	MAXIMUM HORSE POWER #60 Cycle						Pole	Fuse Clip Cap in Amps.	†GEN. PURPOSE NEMA TYPE 1 ENCLOSURE				
		Volts Polyphase			Volts Single Phase					110V. A.C. Sep. Control Circuit 110-600V. Line Voltage	208-220 V. A.C.	440 V. A.C.	550-600 V. A.C.	List Price
		110	208-220	440-600	110	208-220	440-600				Cat. No.	Cat. No.	Cat. No.	
0	HM2	1½	2	2	1	1½	1½	3	30	H03A1F21 H03A1F61	H03A5F21	..... H03D1F61	..... H03E1F61	$ 86.00 94.00
1	HM7½	3	5	7½	1½	3	5	3	30	..... H13A1F61	H13A5F21	..... H13D1F61	..... H13E1F61	90.00 100.00
									60	H13A1F22	H13A5F22	..... H13D1F62	....	96.00 100.00
2	HM25	7½	15	25	3	7½	10	3	60	H23A1F22 H23A1F62	H23A5F22	..... H23D1F62	..... H23E1F62	154.00 162.00
									100	H23A1F23	H23A5F23	..... H23D1F63	..... H23E1F63	162.00 174.00
									200	.....	H23A5F24	.....	.....	196.00
3	HM50	15	30	50	7½	15	25	3	100	..... H33A1F63	H33A5F23	..... H33D1F63	..... H33E1F63	240.00 248.00
									200	H33A1F24	H33A5F24	..... H33D1F64	..... H33E1F64	262.00 288.00
									400	.....	H33A5F25	.....	.....	376.00

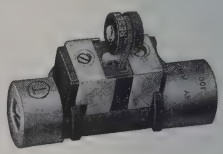
WITH CIRCUIT BREAKER DISCONNECT

Size	Type	MAXIMUM HORSEPOWER #60 Cycle			Poles	Breaker Rating		†GENERAL PURPOSE NEMA TYPE 1 ENCLOSURE				
		Volts Polyphase						110V. A.C. Sep. Control Cir. 110-600V. A.C. Line Voltage	208-220V.	440V.	550-600V.	List Price
		110	208-220	440-600		Amps.	Volts		Cat. No.	Cat. No.	Cat. No.	
0	HM2	1½	2	2	3	15A 15A	250V	H03A1K11 H03A1K61	H03A5K11	..... H03D1K61	..... H03E1K61	$100.00 118.00
1	HM7½	3	5		3	20A 15A 40A	250V	H13A1K12 H13A1K61	H13A5K12 ..... H13A5K14	....	....	106.00 126.00 106.00
				7½		15A 20A 30A	600V	....	....	H13D1K61 H13D1K62 H13D1K63	H13E1K61 H13E1K62	126.00 126.00 126.00
2	HM25	7½	15		3	40A 50A 70A	250V	H23A1K64 H23A1K15	..... H23A5K15 H23A5K27	....	....	194.00 162.00 200.00
				25		30A 40A 50A	600V	....	....	..... H23D1K64 H23D1K65	..... H23E1K64 H23E1K65	..... 194.00 194.00
3	HM50	15	30		3	100A 125A	250V	H33A1K20	H33A5K20 H33A5K313	....	....	276.00 430.00
				50		50A 70A 100A	600V	..... H33A1K67	....	..... H33D1K67 H33D1K60	..... H33E1K67 H33E1K60	..... 304.00 304.00

† Semi-dust-tight enclosures (NEMA type 1A) available at increased cost. Add SD to catalog Number.

TRUMBULL HEATER UNITS AND OVERLOAD RELAYS
FOR MANUAL AND MAGNETIC STARTERS

All heaters and relays are based on a 40 degree centigrade ambient. Relays and heaters will carry approximately one per cent more current for each degree (centigrade) less than 40 degree centigrade ambient, also, one per cent less current for each degree (centigrade) more than 40 degree centigrade ambient.

	Series 9700		Series 9800		Series 7800				Series 8600-8800		
											
Ampere Rating Heater Units and Overload Relays	HEATER UNIT FOR "TT" MANUAL STARTER		HEATER UNITS FOR "CM-2", "CM-7½", "CM-25", "CM-50", "M-2", "M-7½" "TM-2" and "TM-7½" STARTERS		*GROUP FUSING HEATERS		Maximum Amp. Protective Fuses		OVERLOAD RELAYS for "M-2" Reversing Starters		
									Catalog Number		
	Cat. No.	List Each	Cat. No.	List Each	Cat. No.	List Each	250V	600V	Self Reset	Hand Reset	List Each
½	9700-5		9800½		7800½		60	30	8600½	8800½	
¾	9700-7		9800¾		7800¾		60	30	8600¾	8800¾	
1	9701		9801		7801		60	30	8601	8801	
1¼	9701-2		9801¼		7801¼		60	30	------	------	
1½	9701-5		9801½		7801½		60	30	8601½	8801½	
1¾	9701-7		9801¾		7801¾		60	30	------	------	
2	9702		9802		7802		60	30	8602	8802	
2¼	------		9802¼		7802¼		60	30	------	------	
2½	9702-5		9802½		7802½		60	30	8602½	8802½	
2¾	------		9802¾		7802¾		60	30	------	------	
3	9703	$0.80	9803		7803		60	30	8603	8803	
3½	9703-5		9803½		7803½	$3.10	100	30	8603½	8803½	
4	9704		9804		7804		100	30	8604	8804	
4½	9704-5		9804½		7804½		100	30	8604½	8804½	
5	9705		9805		7805		100	30	8605	8805	
6	9706		9806		7806		100	30	8606	8806	
7	9707		9807		7807		100	30	8607	8807	
8	9708		9808		7808		100	....	8608	8808	$4.85
9	9709		9809		7809		100	....	8609	8809	
10	9710		9810		7810		100	....	8610	8810	
12	9712		9812	$1.70	7812		100	....	8612	8812	
14	9714		9814		7814		.....	....	8614	8814	
16			9816		7816		.....	....	8616	8816	
18			9818		7818		.....	....	8618	8818	
20			9820		7820		.....	....	8620	8820	
22			9822		7822		.....	....	8622	8822	
24			9824		7824		.....	....	8624	8824	
26			9826						------	------	
28			9828						8628	8828	
30			9830						8632	8832	
32			9832						8636	8836	
36			9836						8640	8840	
40			9840								
45			9845								
50			9850-R								
55			9855-R								
60			9860-R								
65			9865-R								
70			9870-R								
75			9875-R								
80			9880-R								
85			9885-R								
90			9890-R								

*HEATER UNITS—GROUP FUSING

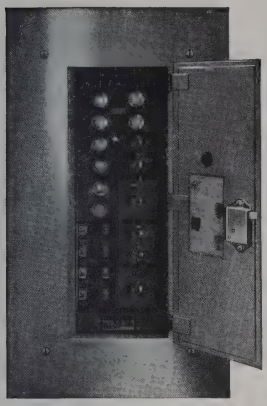
For Use on Size 0 Manual Starters When Two or More Starters are Grouped on a Single Set of Fuses

In accordance with the National Electric Code, when in a group of motors, each is protected by a motor-running protective device which has been approved for group installations, the motor branch circuit protective device may be omitted provided the feeder conductors supplying the group are protected by fuses having a rating not exceeding that indicated on the smallest motor-running protective device of the group. Motor branch circuit conductor requirements for group fusing are specified in paragraph 4343B, of the 1951 National Electric Code.

SCHEDULE MS

TRUMBULL LIGHTING PANELBOARDS

(Finish, Medium Light Grey)



SWITCH AND FUSE LIGHTING PANELBOARDS

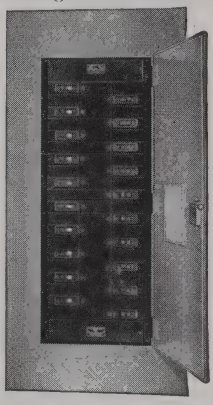
Switch and fuse lighting panelboards of the sectional type provide for multiple grouping of many small circuits or branches; facilitate their control and allow for renewal of protective devices.

Constructed of standardized parts, thereby providing additional features of flexibility and interchangeability.

Available in two types: Standard, with 20-inch width by 4½-inch deep box, and narrow with a 12½-inch width box. Narrow style available in plug fuse type only. The latter are particularly suitable for mounting in limited or restricted areas.

Application: Designed for low voltage lighting distribution 125 V. D.C., 125-250 V. A.C., or D.C. and 250 V. A.C. Maximum fuse capacity 30 Amps. Branch circuits to be fused to protect branch wires.

Construction: These dead front panelboards consist of an assembly of moulded Phenolic sections, each containing a maximum of four tumbler switches, with fuses of the plug or cartridge type. Tumbler switches are available in both single and double pole, having a rating of 30 A. 250 V.



NAB CIRCUIT BREAKER LIGHTING PANELBOARDS

Circuit breaker lighting panelboards are particularly adaptable when automatic overload protection and flexibility are important factors. This type of panelboard incorporates the Type "AT" Circuit Breaker with improved electrical and mechanical features.

Application: Designed for low voltage, branch circuit lighting and power distribution (125 V. D.C.—125-250 Volt or 250 V. A.C.) where the capacity of any branch circuit does not exceed 50 Amperes, although one sub-feed up to 225 Amperes can be furnished.

Construction: Breakers are assembled on a heavy black enamel steel back plate, to accommodate the mounting of either 1, 2 or 3 pole breakers—of 15, 20, 25, 35 or 50 ampere rating—a feature of interchangeability which may be desirable at some later date.

Breakers are calibrated and sealed at the factory to prevent unauthorized tampering or changes.

Boxes are 4½ inches deep, with the exception of where main breakers are of 100 or 225 amp., frame size, which require a box 5¾ inches deep.

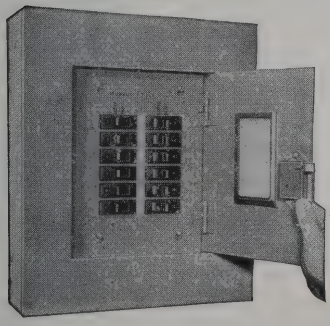
NLAB CIRCUIT BREAKER LIGHTING PANELBOARDS

Formerly called NTQ, this panelboard uses the TQ, a quick-make, quick-break breaker with thermal-magnetic trip. The NLAB is a moderate priced panel board which gives automatic overload and short circuit protection.

Application: From 4 to 42 circuits. Mains are 3 wire, 120/240 V. AC or 4 wire, 3 phase 120/208 V. AC. Lugs only or type AT circuit breakers in mains.

Both standard construction and column type for mounting in the web of H beams.

NLTQ CIRCUIT BREAKER PANELBOARDS

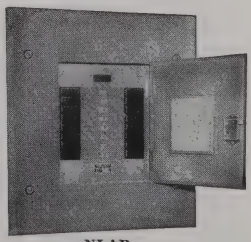


NLTQ

A Trumbull development, this great new panelboard provides the best protection ever offered in its price range.

Application: From 4 to 42 circuits. Mains are 3 wire, 120/240V and 4 wire, 3 phase, 120/208V. Lugs only or AT circuit breakers in mains. Branches are 2 wire, 120V.

Construction: Busbars are completely encased in the PLASTISOL interior where they run 10% cooler than in open air and have firm support. Branch circuits are protected by the new TQL breaker. This compact breaker is the first plug-in breaker to be quick-make, quick-break, with thermal-magnetic trip.



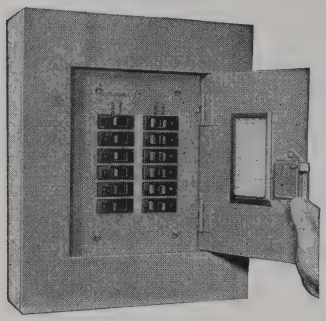
NLAB

Solderless lugs standard in the mains of all panelboards.

Note—Furnished with a dual purpose front which is suitable for either FLUSH or SURFACE mounting. Standard knockouts furnished on all Lighting Panelboard Boxes unless otherwise specified on order. Blank box ends will be furnished on all special panelboard boxes unless k.o. information accompanies order.

TRUMBULL NLTQ CIRCUIT BREAKER PANELBOARD

U/L Listed—As Panelboards under File E2366



STANDARD TYPE—SINGLE DOOR CONSTRUCTION

A brand new plug-in circuit breaker in a brand new panelboard with these exclusive features:

- **Plastisol Interior**
  Bus bars are molded right into a plastisol base.
  Plastisol is non-tracking and non-aging.
  Bus bars run 10 per cent cooler than in open air.
- **TQL Plug-in Circuit Breaker**
  Quick-make, Quick-break; Thermal-magnetic; Trip-indicating; Trip-free; Pressure-type contacts to engage stabs quick and sure.

MAINS: Lugs only or Circuit Breakers.

BRANCHES: Single Pole—Type TQL thermal-magnetic, quick-make, quick-break Circuit Breakers.

Mains—3 Wire, 120/240 V. AC.

Branches—2 Wire, 120 V. AC.

Mains—4 Wire, 3 Phase, 120/208 V. AC.

Branches—2 Wire, 120 V. AC.

TYPE NLTQ-3							TYPE NLTQ-4						
No. of Circuits	Rating of Main Lugs Amps	Mains with Lugs Only Cat. No.	Mains with Lugs Only List Price	Mains with Circuit Breaker Cat. No.	Mains with Circuit Breaker List Price	Max. Rating of Main Circuit Breaker Amps.	Rating of Main Lugs Amps	Mains with Lugs Only Cat. No.	Mains with Lugs Only List Price	Mains with Circuit Breaker Cat. No.	Mains with Circuit Breaker List Price	Max. Rating of Main Circuit Breaker Amps
4		NLTQ-304L	$ 95.00	NLTQ-304AB	$117.00			NLTQ-404L	$111.00	NLTQ-404AB	$143.00	
6		NLTQ-306L	102.00	NLTQ-306AB	124.00	50		NLTQ-406L	118.00	NLTQ-406AB	150.00	
8	100	NLTQ-308L	109.00	NLTQ-308AB	131.00		100	NLTQ-408L	125.00	NLTQ-408AB	157.00	50
10		NLTQ-310L	116.00	NLTQ-310AB	138.00			NLTQ-410L	132.00	NLTQ-410AB	164.00	
12		NLTQ-312L	123.00	NLTQ-312AB	189.00	100		NLTQ-412L	139.00	NLTQ-412AB	171.00	
14		NLTQ-314L	161.00	NLTQ-314AB	196.00			NLTQ-414L	171.00	NLTQ-414AB	233.00	
16	100	NLTQ-316L	168.00	NLTQ-316AB	203.00	100	100	NLTQ-416L	178.00	NLTQ-416AB	240.00	100
18		NLTQ-318L	175.00	NLTQ-318AB	210.00			NLTQ-418L	185.00	NLTQ-418AB	247.00	
20		NLTQ-320L	182.00	NLTQ-320AB	217.00			NLTQ-420L	192.00	NLTQ-420AB	254.00	
22		NLTQ-322L	213.00	NLTQ-322AB	422.00			NLTQ-422L	224.00	NLTQ-422AB	287.00	
24		NLTQ-324L	220.00	NLTQ-324AB	429.00			NLTQ-424L	231.00	NLTQ-424AB	294.00	
26	210	NLTQ-326L	227.00	NLTQ-326AB	436.00	225	100	NLTQ-426L	238.00	NLTQ-426AB	301.00	100
28		NLTQ-328L	234.00	NLTQ-328AB	443.00			NLTQ-428L	245.00	NLTQ-428AB	308.00	
30		NLTQ-330L	241.00	NLTQ-330AB	450.00			NLTQ-430L	252.00	NLTQ-430AB	315.00	
32		NLTQ-332L	281.00	NLTQ-332AB	488.00			NLTQ-432L	290.00	NLTQ-432AB	546.00	
34		NLTQ-334L	288.00	NLTQ-334AB	495.00			NLTQ-434L	297.00	NLTQ-434AB	553.00	
36	210	NLTQ-336L	295.00	NLTQ-336AB	502.00	225	210	NLTQ-436L	304.00	NLTQ-436AB	560.00	225
38		NLTQ-338L	302.00	NLTQ-338AB	509.00			NLTQ-438L	311.00	NLTQ-438AB	567.00	
40		NLTQ-340L	309.00	NLTQ-340AB	516.00			NLTQ-440L	318.00	NLTQ-440AB	574.00	
42		NLTQ-342L	316.00	NLTQ-342AB	523.00			NLTQ-442L	325.00	NLTQ-442AB	581.00	

List Prices Based on 15 Amp. Breakers. 20, 30, 40 or 50 Amp. breakers can be supplied at same price unless increased bus capacity is required. Increased mains, space only and special features.

Double Pole Breakers—For each double pole breaker (Independent Trip) when substituting for two single pole breakers add **$1.80** to list.

HT-100 Handle Extensions for 2 Pole operation—when ordered individually list price **$0.40.**

Lighting Panelboards furnished with DUAL PURPOSE FRONT; suitable for either flush or surface mounting. Where front must not overhang box edges, specify "must be SURFACE MOUNTING."

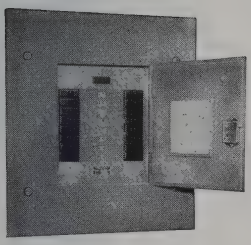
Space for future circuits. NLTQ panelboards are furnished in four basic box sizes—4 to 12 circuits, 14 to 20 circuits, 22 to 30 circuits, 32 to 42 circuits. If a panelboard is ordered with the number of circuits under the maximum for a certain box size, the additional circuits up to the maximum are included at no increase in prices. For example, an NLTQ-304L has four breakers in place and space for eight additional breakers at no extra cost.

DISCOUNT SCHEDULE L

TRUMBULL LIGHTING PANELBOARDS

NLAB Circuit Breaker Panels
(Formerly Type NTQ)

For Alternating Current Only



Mains: Lugs only or Circuit Breakers; with solderless lugs.

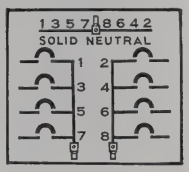
Branches: Single Pole — thermal-magnetic trip breakers—quick make and break—trip free.

Boxes: Code gauge galvanized sheet steel—4-inch gutters.

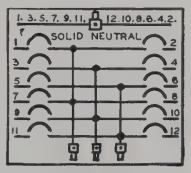
Fronts: Code gauge steel—medium light grey lacquer over zinc chromate primer—single door construction.

Mains:
3 Wire, 120/240 Volts AC solid neutral
Branches:
2 Wire, 120 Volts AC solid neutral

Mains:
4 Wire, 3 Phase 120/208 Volts AC solid neutral
Branches:
2 Wire, 120 Volts AC solid neutral



NLAB-3



NLAB-4

TYPE NLAB 3

No. Circuits	Main Amperes	Mains with Lugs Only: Cat. No.	Mains with Lugs Only: Cat. No. Box Only	Mains with Lugs Only: *List Price Complete	Mains with Circuit Breaker: Cat. No.	Mains with Circuit Breaker: Cat. No. Box Only	Mains with Circuit Breaker: *List Price Complete
4	50	NLAB304L	51200	$103.00	NLAB304AB	51202	$123.00
6	50	NLAB306L	51201	120.00	NLAB306AB	51203	142.00
8	50	NLAB308L	51201	136.00	NLAB308AB	51203	158.00
10	50	NLAB310L	51201	155.00	NLAB310AB	51203	176.00
12	100	NLAB312L	51201	172.00	NLAB312AB	61205	230.00
14	100	NLAB314L	51202	189.00	NLAB314AB	61205	249.00
16	100	NLAB316L	51202	207.00	NLAB316AB	61205	265.00
18	100	NLAB318L	51203	224.00	NLAB318AB	61206	282.00
20	100	NLAB320L	51203	241.00	NLAB320AB	61206	300.00
22	100	NLAB322L	51203	257.00	NLAB322AB	61209	466.00
24	100	NLAB324L	51203	276.00	NLAB324AB	61209	483.00
26	200	NLAB326L	51204	293.00	NLAB326AB	61209	501.00
28	200	NLAB328L	51204	310.00	NLAB328AB	61209	518.00
30	200	NLAB330L	51205	328.00	NLAB330AB	61210	535.00
32	200	NLAB332L	51205	345.00	NLAB332AB	61210	553.00
34	200	NLAB334L	51205	362.00	NLAB334AB	61211	570.00
36	200	NLAB336L	51205	380.00	NLAB336AB	61211	587.00
38	200	NLAB338L	51206	397.00	NLAB338AB	61211	604.00
40	200	NLAB340L	51206	414.00	NLAB340AB	61211	622.00
42	200	NLAB342L	51207	431.00	NLAB342AB	61212	639.00

TYPE NLAB 4

No. Circuits	Main Amperes	Mains with Lugs Only: Cat. No.	Mains with Lugs Only: Cat. No. Box Only	Mains with Lugs Only: *List Price Complete	Mains with Circuit Breaker: Cat. No.	Mains with Circuit Breaker: Cat. No. Box Only	Mains with Circuit Breaker: *List Price Complete
6	50	NLAB406L	51201	$130.00	NLAB406AB	51203	$161.00
8	50	NLAB408L	51201	146.00	NLAB408AB	51203	178.00
10	50	NLAB410L	51201	164.00	NLAB410AB	51203	196.00
12	50	NLAB412L	51201	184.00	NLAB412AB	51203	213.00
14	50	NLAB414L	51202	198.00	NLAB414AB	51204	230.00
16	100	NLAB416L	51202	216.00	NLAB416AB	61205	292.00
18	100	NLAB418L	51203	233.00	NLAB418AB	61206	309.00
20	100	NLAB420L	51203	251.00	NLAB420AB	61206	327.00
22	100	NLAB422L	51203	267.00	NLAB422AB	61207	343.00
24	100	NLAB424L	51203	285.00	NLAB424AB	61207	361.00
26	100	NLAB426L	51204	303.00	NLAB426AB	61208	377.00
28	100	NLAB428L	51204	319.00	NLAB428AB	61208	396.00
30	100	NLAB430L	51205	337.00	NLAB430AB	61208	413.00
32	200	NLAB432L	51205	354.00	NLAB432AB	61210	609.00
34	200	NLAB434L	51205	372.00	NLAB434AB	61211	627.00
36	200	NLAB436L	51205	388.00	NLAB436AB	61211	644.00
38	200	NLAB438L	51206	407.00	NLAB438AB	61211	662.00
40	200	NLAB440L	51206	424.00	NLAB440AB	61211	679.00
42	200	NLAB442L	51207	440.00	NLAB442AB	61212	696.00

*List prices based on 15-ampere breakers. 10, 20, 30, 40 or 50-ampere breakers can be supplied at same price unless increased bus capacity is required. For increased mains, space only and special features, information on request.

Double-pole breakers: For each double-pole breaker (independent trip) that is substituted for two single-pole breakers, add **$2.00** to list.

HT-100 Handle Extensions for 2 Pole operation — when ordered individually list price **$0.40.**

Main breakers: 50 amperes—Type AT; 100 amperes—Type ATB; 200 amperes—Type AT.

Standard knockouts furnished on all lighting panelboard boxes unless otherwise specified on order. Special boxes furnished with blank ends unless knockout information accompanies order.

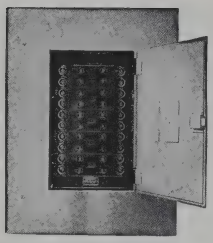
Lighting Panelboards furnished with DUAL PURPOSE FRONT; suitable for either flush or surface mounting. Where front must not overhang box edges, specify "must be SURFACE MOUNTING."

SCHEDULE L

TRUMBULL LIGHTING PANELBOARD

NTP and NTC Switch and Fuse Panels

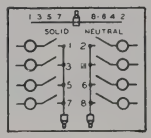
For Alternating or Direct Current



STANDARD TYPE

MAINS
3 Wire 125/250 V.
AC or DC
BRANCHES
2 Wire, 125 V.
AC or DC

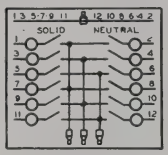
30 Amp. S. P. Fused. Tumbler Switch in one leg.
SOLID NEUTRAL in other.



No. Cir.	Cap. Mains Amps.	†Box Only Cat. No.	SINGLE DOOR PLUG FUSES Cat. No.	SINGLE DOOR CART. FUSES Cat. No.	SINGLE DOOR List Price	DOOR-IN-DOOR Add Suffix D to Cat. No.
MAINS WITH LUGS ONLY						
4	60	51200	NTP304L	NTC304L	$91.00	
8	60	51201	NTP308L	NTC308L	116.00	
12	60	51202	NTP312L	NTC312L	138.00	Add $31.00 to Single Door Prices
16	100	51203	NTP316L	NTC316L	161.00	
20	100	51204	NTP320L	NTC320L	184.00	
24	200	51205	NTP324L	NTC324L	207.00	
28	200	51206	NTP328L	NTC328L	229.00	
32	200	51207	NTP332L	NTC332L	252.00	
36	200	51208	NTP336L	NTC336L	275.00	
40	200	51209	NTP340L	NTC340L	297.00	
MAINS WITH SAFETY FUSE (Swing-Wa)						
4	60	51203	NTP304SWF	NTC304SWF	$113.00	
8	60	51204	NTP308SWF	NTC308SWF	134.00	
12	60	51205	NTP312SWF	NTC312SWF	157.00	Add $31.00 to Single Door Prices
16	100	51206	NTP316SWF	NTC316SWF	202.00	
20	100	51207	NTP320SWF	NTC320SWF	226.00	
24	200	51209	NTP324SWF	NTC324SWF	301.00	
28	200	51210	NTP328SWF	NTC328SWF	323.00	
32	200	51211	NTP332SWF	NTC332SWF	348.00	
36	200	51212	NTP336SWF	NTC336SWF	371.00	
40	200	51213	NTP340SWF	NTC340SWF	394.00	

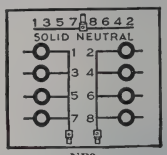
MAINS
4 Wire, 3 Ph.
120/208 V.
BRANCHES
2 Wire, 120 Volt

30 Amp. S. P. Fused Tumbler Switch in one leg.
SOLID NEUTRAL in other.



No. Cir.	Cap. Mains Amps.	†Box Only Cat. No.	SINGLE DOOR PLUG FUSES Cat. No.	SINGLE DOOR CART. FUSES Cat. No.	SINGLE DOOR List Price	DOOR-IN-DOOR Add Suffix D to Cat. No.
MAINS WITH LUGS ONLY						
4	60	51200	NTP404L	NTC404L	$105.00	
8	60	51201	NTP408L	NTC408L	122.00	
12	60	51202	NTP412L	NTC412L	146.00	
16	60	51203	NTP416L	NTC416L	169.00	Add $31.00 to Single Door Prices
20	100	51204	NTP420L	NTC420L	191.00	
24	100	51205	NTP424L	NTC424L	215.00	
28	100	51206	NTP428L	NTC428L	238.00	
32	200	51207	NTP432L	NTC432L	262.00	
36	200	51208	NTP436L	NTC436L	283.00	
40	200	51209	NTP440L	NTC440L	306.00	
MAINS WITH SAFETY FUSE (Swing-Wa)						
4	60	51203	NTP404SWF	NTC404SWF	$133.00	
8	60	51204	NTP408SWF	NTC408SWF	156.00	
12	60	51205	NTP412SWF	NTC412SWF	180.00	Add $31.00 to Single Door Prices
16	60	51206	NTP416SWF	NTC416SWF	202.00	
20	100	51207	NTP420SWF	NTC420SWF	255.00	
24	100	51208	NTP424SWF	NTC424SWF	278.00	
28	100	51209	NTP428SWF	NTC428SWF	301.00	
32	200	51211	NTP432SWF	NTC432SWF	402.00	
36	200	51212	NTP436SWF	NTC436SWF	425.00	
40	200	51213	NTP440SWF	NTC440SWF	448.00	

PLUG FUSE TYPE

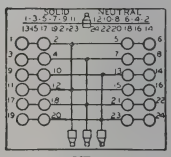


NP3

MAINS
3 Wire, 125/250 Volts
BRANCHES
2 Wire, 125 Volts

SINGLE PLUG FUSE in one leg
SOLID NEUTRAL in other
SINGLE DOOR CONSTRUCTION

PLUG FUSES Cat. No.	No. Cir.	Price Each	Cap Mains Amps.	†Box only Cat. No.
MAINS WITH LUGS ONLY				
NP316L	16	$116.00	100	51201
NP324L	24	136.00	200	51202
NP332L	32	160.00	200	51203
NP340L	40	184.00	200	51204
MAINS WITH SAFETY-FUSE (Swing-Wa)				
NP308SWF	8	$111.00	60	51203
NP316SWF	16	156.00	100	51204
NP324SWF	24	231.00	200	51206
NP332SWF	32	254.00	200	51207
NP340SWF	40	277.00	200	51208



NP4

MAINS
4 Wire, 3 Phase, 120/208 V.
BRANCHES
2 Wire, 120 Volts

SINGLE PLUG FUSE in one leg
SOLID NEUTRAL in other
SINGLE DOOR CONSTRUCTION

PLUG FUSES Cat. No.	No. Cir.	Price Each	Cap Mains Amps.	†Box only Cat. No.
MAINS WITH LUGS ONLY				
NP416L	16	$122.00	60	51201
NP424L	24	146.00	100	51202
NP432L	32	169.00	200	51203
NP440L	40	191.00	200	51204
MAINS WITH SAFETY-FUSE (Swing-Wa)				
NP408SWF	8	$133.00	60	51203
NP416SWF	16	156.00	60	51204
NP424SWF	24	209.00	100	51205
NP432SWF	32	310.00	200	51207
NP440SWF	40	333.00	200	51208

For general additions when other than standard features are required, information on request.

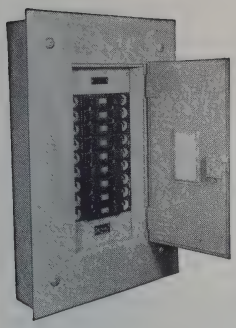
Standard knockouts furnished on all Lighting Panelboard Boxes unless otherwise specified on order.

†For box sizes, see a following page. Blank box ends will be furnished on all special panelboard boxes unless knockout information accompanies order.

Solderless Lugs standard in the mains.

Furnished with a dual purpose front which is suitable for either **Flush** or **Surface** mounting. Where front must not overhang box edges, specify "must be surface mounting."

TRUMBULL LIGHTING PANELBOARDS
SINGLE FUSING TYPES FOR AC OR DC



18 Circuit NTPR

NTPR

MAINS: Lugs only or Converi-fuse units; with solderless lugs.

BRANCHES: Single pole plug fused 30 amp., Tumbler switches.

BOXES: †17" wide x 4½" deep. Panelboards Unit packaged.

Single Door Construction.

NTPS

MAINS: Lugs Only.

BRANCHES: Single Pole plug fused 30 amp. Tumbler Switches.

BOXES: †12" wide x 3⅛" deep. Panelboards Unit Packaged.

Single Door Construction.

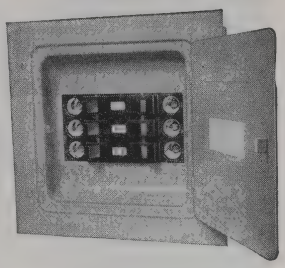
Panelboards are furnished with DUAL PURPOSE FRONT; suitable for either flush or surface mounting. Where front must not overhang box edges, add suffix S to catalog number. No change in price. Handle Lock-off Cat. No. LO-2, **$1.70** List Each. Fuses or adaptors not included in price.

Two and three pole circuits—Where 2 and 3 pole circuits are required (handle tie provided), convert to total number of single poles and obtain price of panelboard; then ADD:

$1.80 list for each 2 Pole substituted for two single poles

3.65 list for each 3 Pole substituted for three single poles

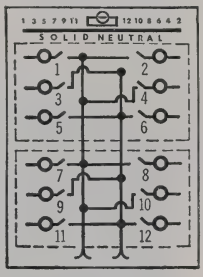
These circuits may be used for 250 volts or less (maximum 150 volts to ground) for appliance or motor circuits requiring maximum 30 ampere fusing. See 1947 National Electric Code article 2403a.



Six Circuit NTPS

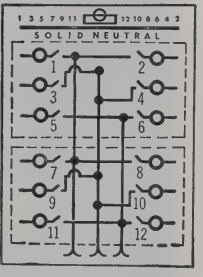
TYPE NTPR

MAINS: 3 WIRE 125/250 V. ● BRANCHES: 2 WIRE 125 V. FOR AC OR DC



No. of Circuits	Main Amp	MAINS WITH LUGS ONLY †Box Height Inches	*Catalog Number	Approx. Shipp'g Weights	List Price Complete	MAINS WITH CONVERTI-FUSE †Box Height Inches	*Catalog Number	Approx. Shipp'g Weights	List Price Complete
6	60	18	‡NTPR306L	33	$ 52.00	26⅛	NTPR306F	50	$ 87.00
12		22⅛	NTPR312L	44	70.00	30½	NTPR312F	61	107.00
18	100	26⅛	NTPR318L	55	110.00	34 11/16	NTPR318F	74	152.00
24	200	30½	NTPR324L	69	144.00	43 1/16	NTPR324F	94	197.00
30		34 11/16	NTPR330L	80	164.00	47 1/16	NTPR330F	105	218.00
36		38⅞	NTPR336L	92	197.00	51 1/16	NTPR336F	116	263.00
42		43 1/16	NTPR342L	104	221.00	55⅝	NTPR342F	127	287.00

MAINS: 4 WIRE, 3 PHASE 120/208 V. ● BRANCHES: 2 WIRE, 120 V. AC



		MAINS WITH LUGS ONLY				MAINS WITH CONVERTI-FUSE			
6		18	‡NTPR406L	33	$ 55.00	26⅛	NTPR406F	53	$ 95.00
12	60	22⅛	NTPR412L	44	79.00	30½	NTPR412F	64	119.00
18		26⅛	NTPR418L	55	129.00	34 11/16	NTPR418F	77	162.00
24	100	30½	NTPR424L	69	157.00	38⅞	NTPR424F	88	198.00
30		34 11/16	NTPR430L	80	176.00	43 1/16	NTPR430F	99	222.00
36	200	38⅞	NTPR436L	92	231.00	NOT AVAILABLE			
42		43 1/16	NTPR442L	104	257.00				

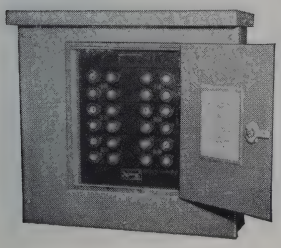
TYPE NTPS

		MAINS: 3 WIRE, 125/250 V. BRANCHES: 2 WIRE, 125 V.				MAINS: 4 WIRE, 3 PHASE 120/208V. BRANCHES 2 WIRE, 120 V.			
		MAINS WITH LUGS ONLY				MAINS WITH LUGS ONLY			
6		11⅞	‡NTPS306L	16	$ 23.30	11⅞	‡NTPS406L	16	$ 39.00
12	60	16 1/16	NTPS312L	22	55.00	16 1/16	NTPS412L	22	61.00

30 Amperes, Single Pole Tumbler Switches and Single Plug Fuse in one leg, Solid Neutral Bar in other leg.

†For outside box dimensions add ¼" to dimensions shown. ‡Approved for Service Entrance Equipment. *Panelboards are unit packaged.

TRUMBULL WEATHERPROOF LIGHTING PANEL



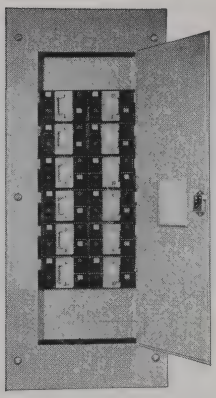
Service: Single phase, 3 wire, 125/250 volts, solid neutral; three phase, 4 wire, 120/208 volts, solid neutral.

Branches: 2 wire, single pole, plug fusing, (30 amp.). Fuses not included.

Weatherproof box, 10 gauge sheet steel. All boxes identical. Dimensions 19⅞ inches high; 21 inches wide; 7¼ inches deep overall. Gasketed door. Brass hinges. Vault handle catch and lock. 2-inch knockout in bottom end. External mounting strap with stud for attachment to pole.

No. of Circuits	SINGLE PHASE—3 WIRE Catalog No.	Main Lugs at Bottom	Approx. Wt. Lbs.	List Price	THREE PHASE—4 WIRE Catalog No.	Main Lugs at Bottom	Approx. Wt. Lbs.	List Price
8	WP-NP308-L	60 Amp.	90	$176.00	WP-NP408-L	60 Amp.	90	$185.00
16	WP-NP316-L	100 Amp.	110	198.00	WP-NP416-L	60 Amp.	110	208.00
24	WP-NP324-L	200 Amp.	115	223.00	WP-NP424-L	100 Amp.	115	230.00

TRUMBULL PANELBOARDS FOR POWER DISTRIBUTION

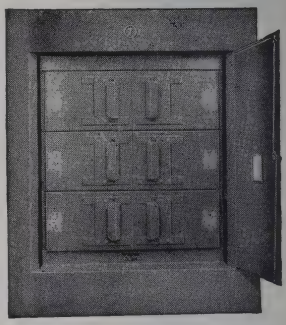


Converti-Fuse® Panelboards

Application: Single phase or DC, 2 or 3 wire; three phase, 3 or 4 wire. Maximum 250 V. DC, 575 V. AC. MAINS—1200 A. lugs or 400 Amp. switch maximum. BRANCHES—30 to 400 amperes, one, two or three pole.

Construction: This panel consists of an assembly of unit sections mounted on a steel back plate. Complete dead front design is provided—the individual base sections and removable caps being made of phenolic. Sections are interchangeable, thereby allowing the maximum flexibility. The caps not only serve as holders for the fuse, but when pulled, may act as a disconnect switch.

Swing-Wa® Panelboards



Application: Single phase or DC, 2 or 3 wire; three phase, 3 or 4 wire. Maximum 250 V. DC, 575 V. AC. MAINS—1200 A. lugs or 600 Amp. switch maximum. BRANCHES—30 to 600 ampere, two or three pole.

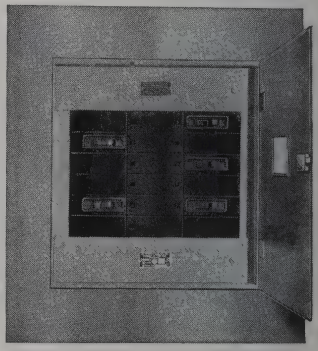
Construction: Individual units are enclosed in their own protective steel compartment—and possess common dimensions allowing for the maximum of interchangeability, flexability and re-arrangement of circuits. The individual units provide an ingenious simplified switching system built into the cover and easily operated by hand. Swing-Wa Panelboards are now equipped with a newly developed operating handle which provides ease of operation.

Full floating contacts and thermostatic contact reinforcements are additional features which contribute to high quality and dependability of this type of distribution units.

Convertible Circuit Breaker Panelboards

Application: Single phase or DC, 2 or 3 wire; three phase, 3 or 4 wire. Maximum 250 V. DC, 600 V. AC. MAINS—1200 A. lugs or 600 A. circuit breaker maximum. BRANCHES—15 to 600 amperes, one, two or three pole circuit breakers.

Construction: Sectionalized type with breakers mounted in steel back plates, thereby making it readily possible to provide space in the cabinet for future additional circuits, or to interchange circuits when the occasion arises. The larger size circuit breakers above 100 Ampere frame are equipped with removable trip units, thus allowing in certain instances desirable changes in capacity without removing the unit itself. Because of standard breaker dimensions, it is also possible to interchange units of different poles or capacities.



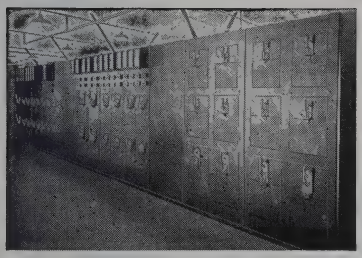
Type ABH Circuit Breaker Panelboards

Application: Single phase, 2 or 3 wire; three phase, 3 or 4 wire. Maximum 250 V. AC, 125/250 V. DC. MAINS—Maximum 400 Amp. lugs or 225 Amp. circuit breakers. BRANCHES—15-50 Amp. one, two or three pole AT circuit breakers.

Construction: Breakers are assembled on a heavy steel back plate, drilled for universal mounting of 50 ampere frame size breakers, one, two or three pole. This permits ready interchange of circuit breakers, which may be necessary to accommodate changes within an electrical wiring system.

TRUMBULL SWITCHBOARDS

- **Dead front**
- **Maximum 600 volts**
- **Easy installation—factory prefabricated**



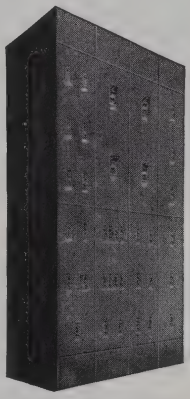
F.O.I. Switchboard

F.O.I. SWITCHBOARDS

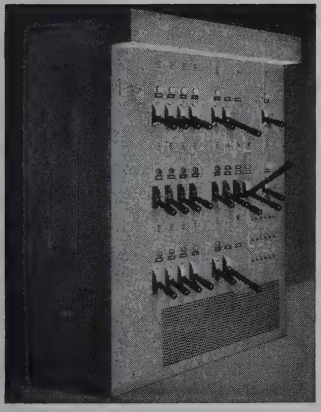
are designed for flexibility, safety, low-maintenance cost and reliability. Used as heavy duty distribution centers for modern industry, they are assemblies of formed steel panels which contain F.O.I. (front operated interlocking) units. These units are fusible switches of heavy duty Type A parts and are rated from 30 to 1200 amperes, up to 600 volts AC or DC and in 2, 3 or 4 pole construction.

CIRCUIT BREAKER SWITCHBOARDS

are compactly designed for small space installation, yet their unit construction makes them easily adaptable for future expansion. Featuring automatic overload protection for heavy-duty industrial and commercial applications, these switchboards are composed of circuit breaker units which have both thermal and magnetic trips. They are rated from 15 to 600 amperes; up to 600 V. AC or 250 V. DC; and are available in 1, 2 and 3 pole construction.



Circuit Breaker Switchboard



Controlite

CONTROLITE

is a combined switchboard and dimmer bank that is used wherever control of lighting is desired — in such places as theatres, auditoriums, arenas, schools, lodges, night clubs, and stores. Because of controlite's complete internal wiring, installation is merely a matter of making connections to main lugs and branch circuit terminals. Main and branch circuits are protected by built-in overcurrent protective devices. Controlite is manufactured in three basic types: 1. using resistance dimmer plates; 2. using Autrastat (auto-transformer) dimmers; 3. Electronic type using saturable reactors. Any desired combination of control for both switching and dimming may be obtained; however, of the three types, only the electronic incorporates preset dimming.

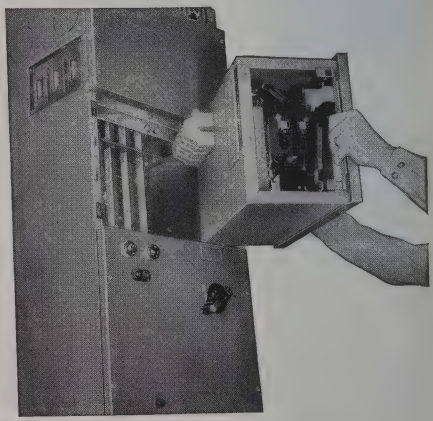
Note: Complete price information for above products is available at the nearest Trumbull factory or branch office.

TRUMBULL CENTR-A-POWER
Switchboards and Control Centers

Centr-A-Power is a complete packaged switchboard, with standard troughs and a complete line of plug-in (Centr-A-Plugs) units for both switchboard and control center applications.

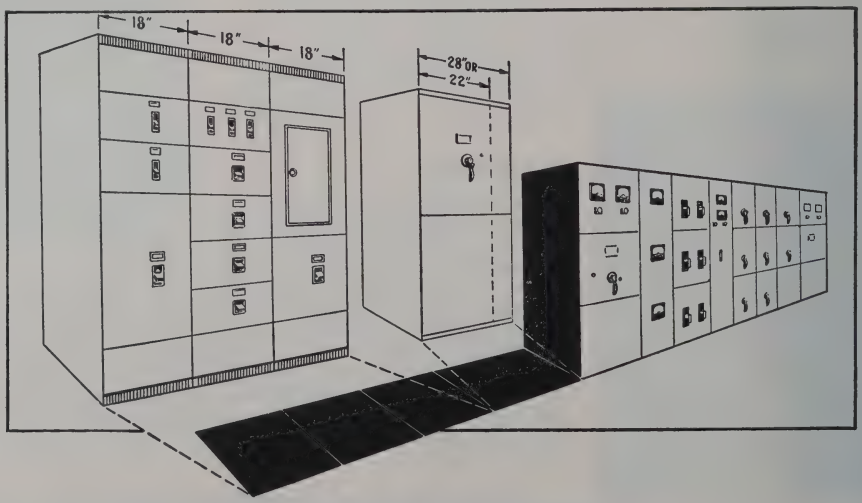
Centr-A-Power is designed to house in one complete, free-standing, uniform-appearing unit all types of industrial equipment including:

Fusible Switchboard Units
Circuit Breaker Switchboard Units
Lighting Panelboard Units
Power Panelboard Units, and
Motor Control Units.



This photo shows the ease with which Centr-A-Plugs are "plugged in" standard troughs. Note stab units and vertical bus bars they will engage.

Illustration below shows how free-standing, dead-front Centr-A-Power switchboard troughs, both Unit and Standard Section Type, form complete installation, and line up with larger, heavier rigid-type switchboards both mechanically and in appearance.



For complete information on Centr-A-Power Switchboards ask for Bulletin TEB-3, Control Center, Circular TEC-8.

TRUMBULL FLEX-A-POWER®

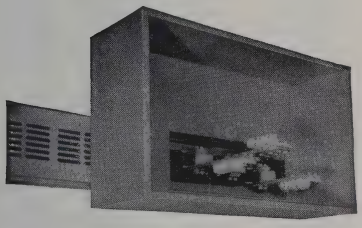
LVD (Low Voltage Drop) Flex-A-Power

This modern feeder busway is available with current ratings of from 600 to 4000 amperes, in two-, three-, or four-pole construction, and is suitable for 600-volt service. Low voltage drop characteristics are the result of close bar spacings and interlaced construction which keep reactance to a minimum. Although LVD is generally used as a service entrance or as a high capacity feeder, it is ideally suited to many other applications, such as risers and resistance welder feeders.

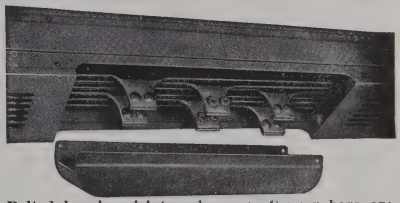
Standard LVD section with edgewise bent bus bars. These standard joints are easily bolted together.

LVD enclosures have specially designed vents for efficient air flow. Insulating material which encloses each conductor individually, is mechanically strong, moisture resistant, and has a high factor of heat transmission.

A complete line of standard fittings is available, including end boxes, cable tap boxes, elbows, T's, offsets, etc. For complete information see Trumbull Bulletin TEB-1. Prices are in Trumbull List Price Schedule 408-1.

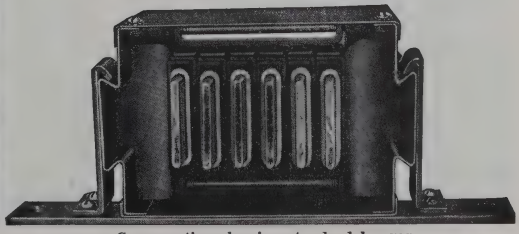


Cable Tap Box



Bolted bus bar joint and cover. Copper bars are edgewise bent with an offset at end of each section to facilitate the alignment of conductors.

Typical Installation of LVD Flex-A-Power



Cross section showing standard hangar.

TRUMBULL LVD FLEX-A-POWER

LIST PRICES FOR STANDARD LENGTHS

Ampere Rating	Bars per Pole	Neutral Bars	List Price per Foot †Three Pole	List Price per Foot 3 Phase, 4 Wire
600	(One) ¼ x 2	(One) ¼ x 2	$ 23.50	$ 29.30
800	(Two) 3/16 x 2	(One) 3/16 x 2	30.90	38.20
1000	(Two) ¼ x 2	(One) ¼ x 2	38.20	45.50
1350	(Three) 3/16 x 2	(Two) 3/16 x 2	45.50	52.90
1600	(Three) ¼ x 2	(Two) ¼ x 2	52.90	60.20
2000	(Four) ¼ x 2	(Two) ¼ x 2	70.50	80.70
2500	(Five) ¼ x 2	(Three) ¼ x 2	102.70	117.40
3000	(Six) ¼ x 2	(Three) ¼ x 2	124.70	146.80
4000	(Eight) ¼ x 2	(Four) ¼ x 2	161.50	190.80

†Also available in 2 and 4 pole and multi-circuit arrangements.

1. Standard ten-foot lengths and standard fittings should be used wherever possible.
2. Two hangers and necessary joint hardware are included with each section of busway.
3. For weather-resistant type and corrosion-resistant construction refer to nearest district office.
4. When an LVD run is estimated, if field measurements indicate a fraction of a foot, the next higher even foot should be figured.
5. Branch protective devices consisting of either fusible adapter switches, Type AT circuit breakers, or air circuit breakers, are available. Additional information on request.

LVD FITTINGS AND ACCESSORIES

Ampere Rating	Elbows (1)	"T" Connections (1)	Cable Tap Boxes Size I (2)	Cable Tap Boxes Size II (2)	End Boxes (3)	Flange Connections (4)	Transformer Tap Openings (5)	Ebony End Closures (4)	Bus Bar Extensions per Foot Straight (6)	Bus Bar Extensions per Foot Formed (6)
Three Pole										
600	$118.00	$147.00	$134.00	$147.00	$ 14.55	$ 46.00	$ 70.00	$ 46.00	$ 13.25	$ 15.90
800	118.00	147.00	141.00	153.00	21.85	48.00	77.00	55.00	17.35	20.80
1000	118.00	147.00	147.00	161.00	23.05	53.00	85.00	62.00	24.70	29.00
1350	118.00	147.00	153.00	170.00	24.25	56.00	92.00	70.00	32.00	36.00
1600	118.00	147.00	161.00	175.00	27.00	58.00	101.00	77.00	39.00	46.00
2000	118.00	147.00	168.00	198.00	32.00	62.00	107.00	85.00	53.00	62.00
2500	118.00	147.00	173.00	222.00	35.00	65.00	116.00	92.00	62.00	74.00
3000	147.00	175.00	194.00	242.00	39.00	67.00	123.00	101.00	76.00	90.00
4000	147.00	175.00	267.00	347.00	44.00	71.00	130.00	107.00	101.00	122.00
Three Phase, Four Wire										
600	$147.00	$175.00	$147.00	$161.00	$ 14.55	$ 46.00	$ 70.00	$ 46.00	$ 14.65	$ 17.65
800	147.00	175.00	153.00	168.00	21.85	48.00	77.00	55.00	22.00	26.00
1000	147.00	175.00	161.00	173.00	23.05	53.00	85.00	62.00	29.00	36.00
1350	147.00	175.00	168.00	188.00	24.25	56.00	92.00	70.00	38.00	45.00
1600	147.00	175.00	173.00	195.00	27.00	58.00	101.00	77.00	44.00	53.00
2000	147.00	175.00	181.00	217.00	32.00	62.00	107.00	85.00	57.00	68.00
2500	147.00	175.00	187.00	240.00	35.00	65.00	116.00	92.00	71.00	85.00
3000	175.00	205.00	208.00	266.00	39.00	67.00	123.00	101.00	88.00	105.00
4000	175.00	205.00	280.00	371.00	44.00	71.00	130.00	107.00	116.00	140.00

(1) Price on Elbows and "T" Connections includes labor of forming only; no footage included.

(2) Price for Cable Tap Boxes includes labor of forming, material and lugs. Capacity of Cable Tap Boxes is determined by the number of lugs and type of wire used. All standard Size I Cable Tap Boxes are provided with two S1250½A lugs per pole and one S1250½A lug per neutral. Alternate lug arrangements can be furnished as specified, not to exceed two per pole and one per neutral in sizes S1248½A to S1250½A inclusive. Alternate lug arrangements can be furnished with a maximum of six per pole and three per neutral in sizes S1248¼A through S1251¼A. When desired number of lugs exceeds the quantity indicated in the above table, refer to district office for prices.

Size II Cable Tap Boxes furnished with lugs as follows:

LVD Ampere Rating	Lugs per Pole	Lugs per Neutral	Lug Size
600	2	1	S1250½A
800	2	1	S1251½A
1000	3	2	S1250½A
1350	3	2	S1251½A
1600	4	2	S1251½A
2000	5	3	S1251½A
2500, 3000, 4000	6	3	S1251½A

(3) List price includes material and labor of forming.

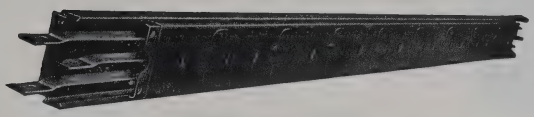
(4) Flange connections and Ebony End Closures: List price includes material and labor of forming. Bus bar extensions and cutouts in switchboards or similar equipment NOT included.

(5) Transformer tap openings: List price includes opening in side of housing and ebony plate with necessary labor and material. Bus bar extensions NOT included.

(6) Copper bus bar extensions: List price per foot includes material and labor of forming for straight and formed extensions.

TRUMBULL FLEX-A-POWER

Type FVK



Standard 10-ft. lengths

This plug-in busway is available in current ratings from 225 to 1000 amperes. The two- and three-pole designs are suitable for 600-volt service. The three-phase, four-wire design is listed for 120/208-volt service but it can be obtained for 277/480-volt service in current ratings from 225 to 600 amperes. Convenient power outlets are provided on 12″ centers along the housing. Power takeoffs are made by means of Flex-A-Plugs which contain fusible switches or enclosed circuit breakers. Since these devices are easily installed or relocated as desired, FVK generally feeds power to a number of individual loads at various points along the run. Thus, because FVK is so convenient, it is often considered to be a panelboard running the length of the plant.

FVK FLEX-A-POWER SYSTEM AND ACCESSORIES

Standard 10-Ft. Lengths

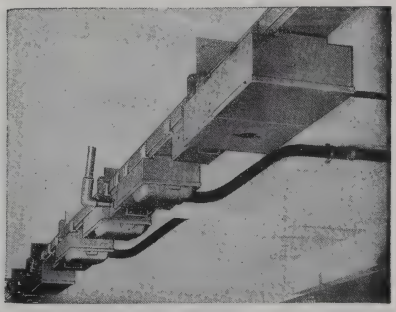
Amperes	Phase Conductor Size	Three Pole		Three Phase, 4 Wire, 120/208 V. S. N.	
		Catalog Number	List Price Each	Catalog Number	List Price Each
225	3/16 x 1	FVK-362B	$84.00	†FVKN-322B	$111.00
400	3/16 x 2	FVK-364	133.00	†FVKN-324	176.00
600	1/4 x 2	FVK-366	168.00	†FVKN-326	209.00
800	3/16 x 4	FVK-368	252.00	FVKN-328	307.00
1000	1/4 x 4	FVK-3610	307.00	FVKN-3210	385.00

† 277/480 V. 3 phase 4 wire, available for 225 A. thru 600 A. at same list prices.

Other standard lengths, 2, 3, 4 and 5 ft., available at pro-rated cost.

SCHEDULE L-10

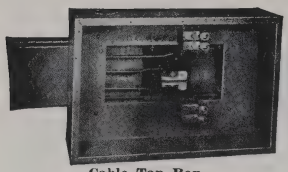
Left. A typical installation of FVK Flex-a-Power showing convenience of feeding individual machines. Equipment may be easily relocated without affecting production of other machines.



FVK Flex-A-Power and Flex-A-Plugs

TRUMBULL FLEX-A-POWER

FVK Flex-A-Power



Cable Tap Box

End Box

FL Fusible Flex-A-Plug

FD Fusible Flex-A-Plug

Amperes	Cable Top Boxes Joint and End-of-Run Type		End Boxes	
	Catalog Number	List Price Each	Catalog Number	List Price Each
THREE POLE				
225	SKCB-32A	$73.00	SKEB-34	$13.30
400	SKCB-34B	73.00	SKEB-36	13.30
600	SKCB-36A	73.00	SKEB-36	13.30
800	SKCB-310A	99.00	SKEB-310	19.95
1000	SKCB-310A	99.00	SKEB-310	19.95
3 PHASE, 4 WIRE				
225	SKCBN-32A	$80.00	SKEBN-34	$13.30
400	SKCBN-34B	80.00	SKEBN-36	13.30
600	SKCBN-36A	80.00	SKEBN-36	13.30
800	SKCBN-310A	107.00	SKEBN-310	19.95
1000	SKCBN-310A	107.00	SKEBN-310	19.95

STANDARD 2 x 2 FT. ELBOWS

Amperes	Flat Right Catalog Number	Flat Left Catalog Number	Edgewise External Catalog Number	Edgewise Internal Catalog Number	List Price Each
THREE POLE					
225	FRE-362	FLE-362B	EEE-362B	EIE-362B	$118.00
400	FRE-364	FLE-364	EEE-364	EIE-364	136.00
600	FRE-366	FLE-366	EEE-366	EIE-366	152.00
800	FRE-368	FLE-368	EEE-368	EIE-368	184.00
1000	FRE-3610	FLE-3610	EEE-3610	EIE-3610	207.00
3 PHASE, 4 WIRE, 120/208 V. S.N.					
† 225	FREN-322B	FLEN-322B	EEEN-322B	EIEN-322B	$145.00
† 400	FREN-364	FLEN-364	EEEN-364	EIEN-364	171.00
† 600	FREN-366	FLEN-366	EEEN-366	EIEN-366	184.00
800	FREN-368	FLEN-368	EEEN-368	EIEN-368	224.00
1000	FREN-3610	FLEN-3610	EEEN-3610	EIEN-3610	254.00

†277/480 V. 3 Phase, 4 Wire, available for 225 A. thru 600 A. at same List Prices.

FLEX-A-PLUGS

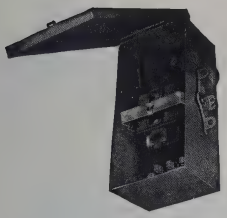
Type "FL" Double Break Switch Plug

Amperes	250 V. 3 Pole			120/208 V. 3 Phase 4 Wire			575 V. 3 Pole		
	Catalog Number	H. P., A. C.	List Price Each	Catalog Number	H. P., A. C.	List Price Each	Catalog Number	H. P., A. C.	List Price Each
30	FL-321	3	$32.00	FLN-321	3	$47.00	FL-361	7½	$32.00
60	FL-322	7½	32.00	FLN-322	7½	47.00	FL-362	20	32.00
100	FL-323		44.00	FLN-323		64.00	FL-363		52.00

Type "FD" Motor Circuit Switch Plug

30	FD-321	3	$46.00	FDN-321	3	$55.00	FD-361	7½	$46.00
60	FD-322	7½	52.00	FDN-322	7½	59.00	FD-362	20	52.00
100	FD-323	15	80.00	FDN-323	15	97.00	FD-363	30	87.00
200	FD-324A	30	134.00	FDN-324A	30	158.00	FD-364A	50	152.00
400	FD-325	50	268.00	FDN-325	50	297.00	FD-365		306.00

TRUMBULL FLEX-A-POWER



FVK FLEX-A-PLUGS
TYPE FCE CIRCUIT BREAKER PLUGS

Trip Rating Amperes	230 Volt Maximum Three Pole* Cat. No.	List Price	Three Phase, Four Wire Cat. No.	List Price	600 Volt Maximum Three Pole* Cat. No.	List Price
	50 Ampere Frame Size				**†100 Ampere Frame Size**	
15	FCE31015	$80.00	FCEN31015	$84.00	FCE36015	$123.00
20	FCE31020	80.00	FCEN31020	84.00	FCE36020	123.00
30	FCE31030	80.00	FCEN31030	84.00	FCE36030	123.00
40	FCE31040	87.00	FCEN31040	91.00	FCE36040	131.00
50	FCE31050	87.00	FCEN31050	91.00	FCE36050	131.00
	†100 Ampere Frame Size					
70	FCE32070	$143.00	FCEN32070	$146.00	FCE36070	$198.00
100	FCE32100	150.00	FCEN32100	155.00	FCE36100	207.00
	225 Ampere Frame Size					
125	FCE33125	$277.00	FCEN33125	$283.00	FCE37125	$325.00
150	FCE33150	281.00	FCEN33150	288.00	FCE37150	329.00
175	FCE33175	286.00	FCEN33175	292.00	FCE37175	336.00
200	FCE33200	292.00	FCEN33200	297.00	FCE37200	340.00
225	FCE33225	295.00	FCEN33225	303.00	FCE37225	347.00
	600 Ampere Frame Size					
250	FCE34250	$770.00	FCEN34250	$829.00	FCE38250	$821.00
275	FCE34275	777.00	FCEN34275	838.00	FCE38275	829.00
300	FCE34300	787.00	FCEN34300	849.00	FCE38300	837.00
350	FCE34350	802.00	FCEN34350	866.00	FCE38350	854.00
400	FCE34400	822.00	FCEN34400	890.00	FCE38400	873.00
500	FCE34500	870.00	FCEN34500	942.00	FCE38500	923.00
600	FCE34600	923.00	FCEN34600	1,001.00	FCE38600	972.00

†Using "ATB" Breakers—Non-Interchangeable Trip.

*For Single Phase loads, the use of standard Three Pole plugs is recommended. Any two of the three switching poles may be wired on the job, permitting balancing of loads between phases in the simplest and most flexible manner.

FVK FLEX-A-POWER ACCESSORIES

Ground Detector Flex-A-Plugs

Cat. No.	Volts	Pole	List Price
G-32	250	3	$64.00
G-36	440/575	3	64.00

Furnished with Neon lamps G.E. Co. Cat. No. NE-33, 1 Watt, 250 Volts. (Resistors included on G-36 plug.)

Neutralizer Flex-A-Plug

Cat. No.	Cable Size	List Price
N-36	600 Volt Maximum	$62.00

Hook Sticks

Cat. No.	Length, Feet	List Price
FHS-8	8	$14.50
FHS-14	14	16.95

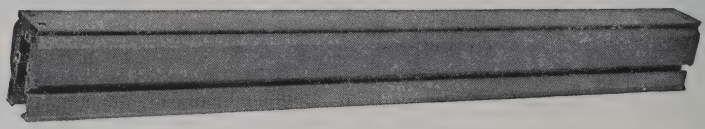
Spring Suspension Device

Cat. No.	Cable Size	List Price
CS-5	No. 14 to No. 6	$9.30
CS-6	No. 4 to No. 1/0	10.65

TRUMBULL FLEX-A-POWER

LTG Flex-A-Power

This unusually rugged, plug-in or trolley busway is rated 50 amperes. It is available in two-, three-, or four-pole construction, and is rated 250 volts. When employed as a plug-in busway, it is generally used to supply lighting, combined power and lighting, or small power loads. As a trolley busway it is used to feed portable tools, cutting machines, small cranes, etc. Because of its many applications, it is the most versatile member of the Flex-A-Power family.



STANDARD LENGTHS — Rated 50 Amperes, 300 Volts

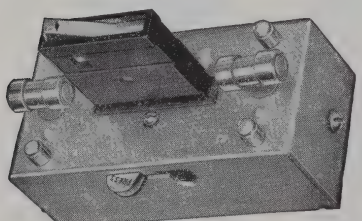
Length	Two Pole Cat. No.	Two Pole List Price Each	Three Pole Cat. No.	Three Pole List Price Each	Four Pole Cat. No.	Four Pole List Price Each
10′	LTG222	$13.20	LTG322	$18.15	LTG422	$23.10
9′	LTG222-9	13.20	LTG322-9	18.15	LTG422-9	23.10
8′	LTG222-8	13.20	LTG322-8	18.15	LTG422-8	23.10
7′	LTG222-7	11.70	LTG322-7	16.40	LTG422-7	20.90
6′	LTG222-6	11.70	LTG322-6	16.40	LTG422-6	20.90
5′	LTG222-5	11.00	LTG322-5	15.25	LTG422-5	19.80
4′	LTG222-4	11.00	LTG322-4	15.25	LTG422-4	19.80
3′	LTG222-3	8.10	LTG322-3	11.70	LTG422-3	14.85
2′	LTG222-2	8.10	LTG322-2	11.70	LTG422-2	14.85
1′	LTG222-1	5.10	LTG322-1	7.60	LTG422-1	9.90

Note: Coupling plate, and bus bar connectors not included.

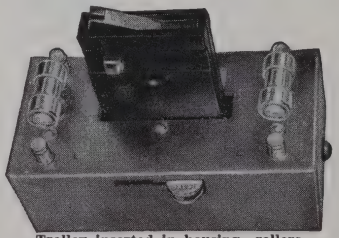
Unfused Trolleys

Cat. No.	List Price Each	Poles	Rating
TRT221	$14.50	2	15 A, 250 Volts
TRT321	19.35	3	15 A, 250 Volts
TRT421	24.20	4	15 A, 250 Volts

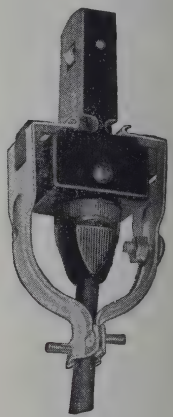
Trolleys are furnished with cable clamp and tool holder. Trolley can be inserted or removed at any point in the run — No "drop-out" section is necessary assuring a stronger housing. Top cover easily removed for wiring — Silver contacts are standard. Trolleys can be used only on the system they were designed for.



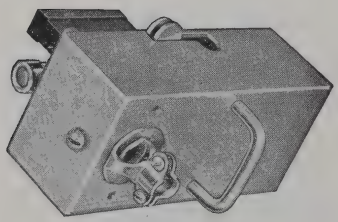
Trolley ready to insert in housing—rollers horizontal with housing



Trolley inserted in housing—rollers vertical to housing



Unfused Plug



Trolley showing cable clamp and tool hanger

Plugs are furnished with cable clamp. Made of molded plastic and silver alloy contacts for firm positive pressure. Cable claws hold the plug firmly to housings. Plugs can be polarized for 2 and 3 pole service. Plastic polarizing piece included. The two pole plug can receive parallel blade attachment cap.

Unfused Plugs

Cat. No.	List Price Each	Rating	Poles
TP221	$3.05	15 A, 300 Volts AC	
TRP221**	3.05	15 A, 125 Volts*	2
TRP221-4A‡	3.65	10 A, 250 Volts AC	2
TRP221-4B‡	3.65	15 A, 125 Volts DC†	2
TRP221-4C‡	3.65	20 A, 250 Volts AC	2
RP221#	2.40	15 A, 125 V; 10 A, 250 V, AC	2
TRP321	6.05	20 A, 250 Volts AC	3
TRP421	9.10	20 A, 250 Volts AC	4

#Receptacle Plug only. **Can be used with 2 and 3 pole housings. ‡2 Pole Phase Plug for use on 4 Pole systems. *Where parallel blade attachment cap is used. †Where wire terminals are used.

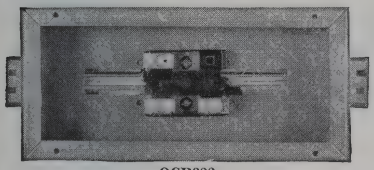
TRUMBULL FLEX-A-POWER

LTG Flex-A-Power

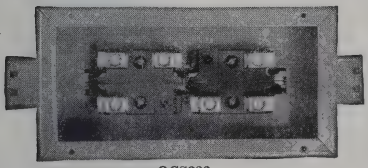
FITTINGS AND ACCESSORIES

FEED-IN BOXES

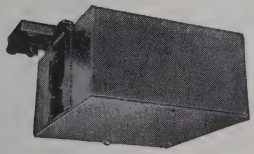
Boxes are rated 50 amperes (unless otherwise indicated), 300 volts. Open type boxes have the terminal box mounted on top of the trough with screw-on cover at top. Flush type feed-in boxes are even with the trough with screw-on cover at bottom.



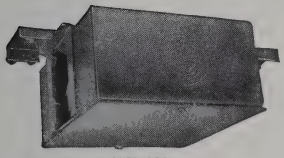
OCB322



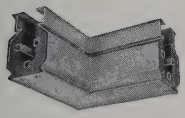
OCS322



FEB322



FCB322



FE322—Elbow

LTC-BCP3

Type	Poles	Cat. No.	List Price Each
Open type* center feed	2	OCB222	$10.90
	3	OCB322	18.75
	4	OCB422	25.40
Open type* sectionalizing center	2	OCS222	12.70
	3	OCS322	21.20
	4	OCS422**	28.00
Flush type† end feed	2	FEB222	9.10
		FEB221 20 Amps.	4.85
	3	FEB322	14.50
		FEB321 20 Amps.	7.25
	4	FEB422	19.35
		FEB421 20 Amps.	9.70
Flush type† center feed	2	FCB222**	10.90
	3	FCB322**	21.80
	4	FCB422**	29.00
Flush type† sectionalizing center	2	FCS222**	10.90

*Does not include coupling plate and bus connectors.

†Coupling plate and bus connectors included.

**Not Underwriter's approved.

ELBOWS*

Type	Poles	Cat. No.	List Price Each
INSIDE	2	IE222	$19.35
	3	IE322	19.35
	4	IE422	21.80
OUTSIDE	2	EE222	19.35
	3	EE322	19.35
	4	EE422	21.80
FLAT	2	FE222	19.35
	3	FE322	19.35
	4	FE422	21.80

*Do not include Coupling Plate or bus connectors.

COUPLING PLATES AND BUS BAR CONNECTORS

Used to Join Housings

Poles	Cat. No.	List Price Each
2	LTG-BCP-2	$2.40
3	LTG-BCP-3	3.05
4	LTG-BCP-4	3.65

SCHEDULE L-12

TRUMBULL FLEX-A POWER
LTG Flex-A-Power
ACCESSORIES

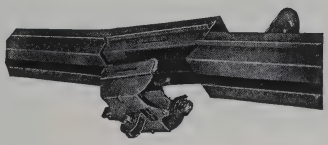
	Catalog Number	Description	List Price Each
Catalog No. LTG-EC	LTG-EC	Universal End-cap with mounting screws. Used to close up end of run. Hole in cap permits insertion of hanger for mounting cap screws to housing.	$1.20
Catalog No. LTG-MS-3 Catalog No. LTG-MF-3	LTG-MS-3 LTG-MS-1	Hanger with messenger cable support hooks and sliding plate 3 9/16" 1¼"	.65 .60
	LTG-MF-3 LTG-MF-1	Hanger with messenger cable support hooks and screw-clamped hanger plate 3 9/16" 1¼"	.70 .65
	LTG-M-3 LTG-M-1	Messenger cable hook assembly 3 9/16" 1¼"	.45 .40
Catalog No. LTG-M-3 Catalog No. LTG-M-1	LTG-S	Sliding type hanger plate with countersunk head screw and nut.	.35
	LTG-F	Screw clamped hanger plate with countersunk head screw and nut.	.40
Catalog No. LTG-FS Catalog No. LTG-UFS	LTG-FS	Fixture support—single hook type.	.55
	LTG-UFS	Universal fixture support.	.95
Catalog No. LTG-CP	LTG-MCP-3 LTG-MCP-1	Coupling plate with messenger cable support hooks and sliding plate. 3 9/16" 1¼"	1.60 1.55
	LTG-CP	Coupling plate only for joining housings.	1.20
Catalog No. LTG-BC	LTG-BC	Busbar connector used for joining busbars—(1 per pole).	.60
Catalog No. FP-21	FP-21	Fusible convenience plug for use with 2-pole plugs only. Takes one or two ¼" x 1¼" 3 AG glass fuses rated up to 8 amperes. Fuses not included.	.60
	LTG-SEC	Sectionalized coupling (Two Catalog Number LTG-EC mounted back to back).	2.40
	LTG-SK5	Fibre slot closure	‡

‡Refer to factory.

TRUMBULL FLEX-A-POWER
TK Flex-A-Power

This 100* ampere heavy duty trolley busway is available in two or three pole construction and is suitable for 575-volt service. It is generally used for large cranes or portable tools, although it can be used wherever a mobile power take off is required.

10-foot length showing housing construction and bus bars



Method of installing or removing a trolley collector

Trolley Collector

Radii

TK Flex-A-Power was developed to provide industry with a safer, better standardized system for supplying power to portable electrically driven tools, hoists, cranes, drills, screw drivers, cutting machines, special high-frequency, high-speed tools. This System is used extensively as a feeder in crane-ways, supplying power to the crane bridge. It also is employed on the bridge to provide power take-off for the transverse travel motor of the hoist and to feed the motor hoist.

Radius sections permit Trolley-Closur to be used paralleling mono-rail systems providing mobile power to electric hoists.

The current flowing in the bus bars is collected by trolleys which serve and directly connect to portable or movable electrical devices. Standard Trolley Collectors are designed to take-off 30 amperes maximum.

Standard TK Flex-A-Power is not intended for outside use.

*200- and 400-ampere ratings available on request.

TK FLEX-A-POWER SYSTEM COLLECTORS AND ACCESSORIES

Description	10 Foot Lengths — 100 Amperes Two Pole Cat. No.	Two Pole List Price Each	Three Pole Cat. No.	Three Pole List Price Each
Without Slide-out Feature	TK223	$67.00	TK363	$73.00
With Slide-out Feature	TK2230	79.00	TK3630	85.00

TROLLEY COLLECTORS—STANDARD ROLLER CONTACTS

Amperes		Two Pole Cat. No.	Two Pole List Price Each	Three Pole Cat. No.	Three Pole List Price Each
30	No-Fuse 250-575V.	PC261	$23.00	PC361	$26.60
30	Fusible 250 volt	PCF221	48.00	PCF321	55.00
30	Fusible 575 volt	----------	-------	PCF361	75.00

Standard Accessories

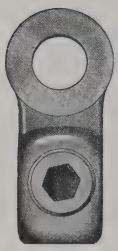
End Box Only, Cat. No. TK36B.....List **$4.25**
Feed-in Box Only (Lugs for No. 1 Wire), Cat. No. TK36M .....List **10.90**
Heavy Duty End Box and Feed-in Box, Cat. No. TK36MB .....List **15.15**

Less than standard 10-ft. lengths—**$40.00** setup charge per length plus straight footage at standard prices.

Radii sections—**$55.00** per lineal foot or fraction thereof.

For Tool Support add suffix H to Catalog No. and add **$3.65** to List Price.

TRUMBULL SOLDERLESS CONNECTORS—"HANDI-LUGS" TYPE "A"



STANDARD AND STUD TERMINAL CONNECTORS

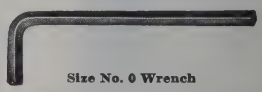
Silver Finish

Ampere Rating	Range of Wire Sizes (Solid, Stranded or Flexible)	Use Wrench No.	STANDARD "HANDI-LUGS" One Hole Mounting Cat. No.	One Hole Mounting List Each	Two Hole Mounting Cat. No.	Two Hole Mounting List Each	STUD TERMINAL HANDI-LUGS Cat. No.	STUD TERMINAL HANDI-LUGS List Each	HANDI-TWO-WAY CONNECTORS Cat. No.	HANDI-TWO-WAY CONNECTORS List Each
30	No. 14 to 8	S. D.	S1245	$0.65	S1245A	$ 0.95	S1231½	$ .65	S1285	$ 1.25
30–60	No. 14 to 4	0	S1246	.85	S1246A	1.15	S1232	.85	S1286	1.25
100	No. 4 to 1/0	1	S1248½	1.50	S1248½A	1.50	S1234	1.50	S1287	1.60
200	1/0 to 4/0	1	S1249½	2.30	S1249½A	2.75	S1235	2.75	S1288	3.65
300	3/0 to 350MCM	2	S1250	3.05	S1250A	3.40	S1236	3.40	S1289	4.70
400	4/0 to 500 MCM	2	S1250½	4.70	S1250½A	5.35	S1237	5.35	S1290	8.10
500	350MCM to 750MCM	2	S1251½	7.85	S1251½A	7.85	S1237½	7.85	S1291	12.75
600	500MCM to 1000MCM	2	S1252	9.15	S1252A	10.00	S1238	10.00	S1292	15.95
800	1100MCM to 1500MCM	3	.....	.....	S1253A	18.10	.....	.....	.....	.....
1200	1600MCM to 2000MCM	3	.....	.....	S1254A	30.00	.....	.....	.....	.....
	TWIN CABLE LUGS									
600	2-3/0 to 350MCM	2	S-8742	$7.20	.....	.....	.....	.....	.....	.....
800	2-4/0 to 500MCM	2	.....	.....	S8743 A	$13.80	S1239	$13.80	.....	.....
1050	2-500MCM to 750MCM	2	.....	.....	S8743½A	18.10	.....	.....	.....	.....
1200	2-500MCM to 1000MCM	2	.....	.....	S8744 A	30.00	S1240	30.00	.....	.....

Trumbull "Handi-Lugs" are Underwriters' Laboratories approved.

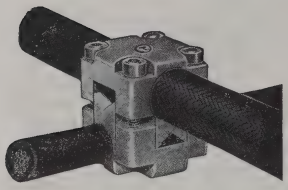
SOCKET HEAD WRENCHES

Size No. 3	each	$0.95
Size No. 2	each	.45
Size No. 1	each	.35
Size No. 0	each	.35



Size No. 0 Wrench

SCHEDULE B-1



P-X-T Connectors

P-X-T CONNECTORS

Cat. No.	Range of Wire Sizes	*List Price
PXT3001	No. 4 to No. 1/0 inclusive	$5.55
PXT2500	No. 1/0 to 500,000 CM inclusive	8.95
PXT1MCM	500,000 CM to 1,000,000 CM inclusive	15.95

*Price includes wrench.

Standard package is 3 of one size, complete with wrenches.

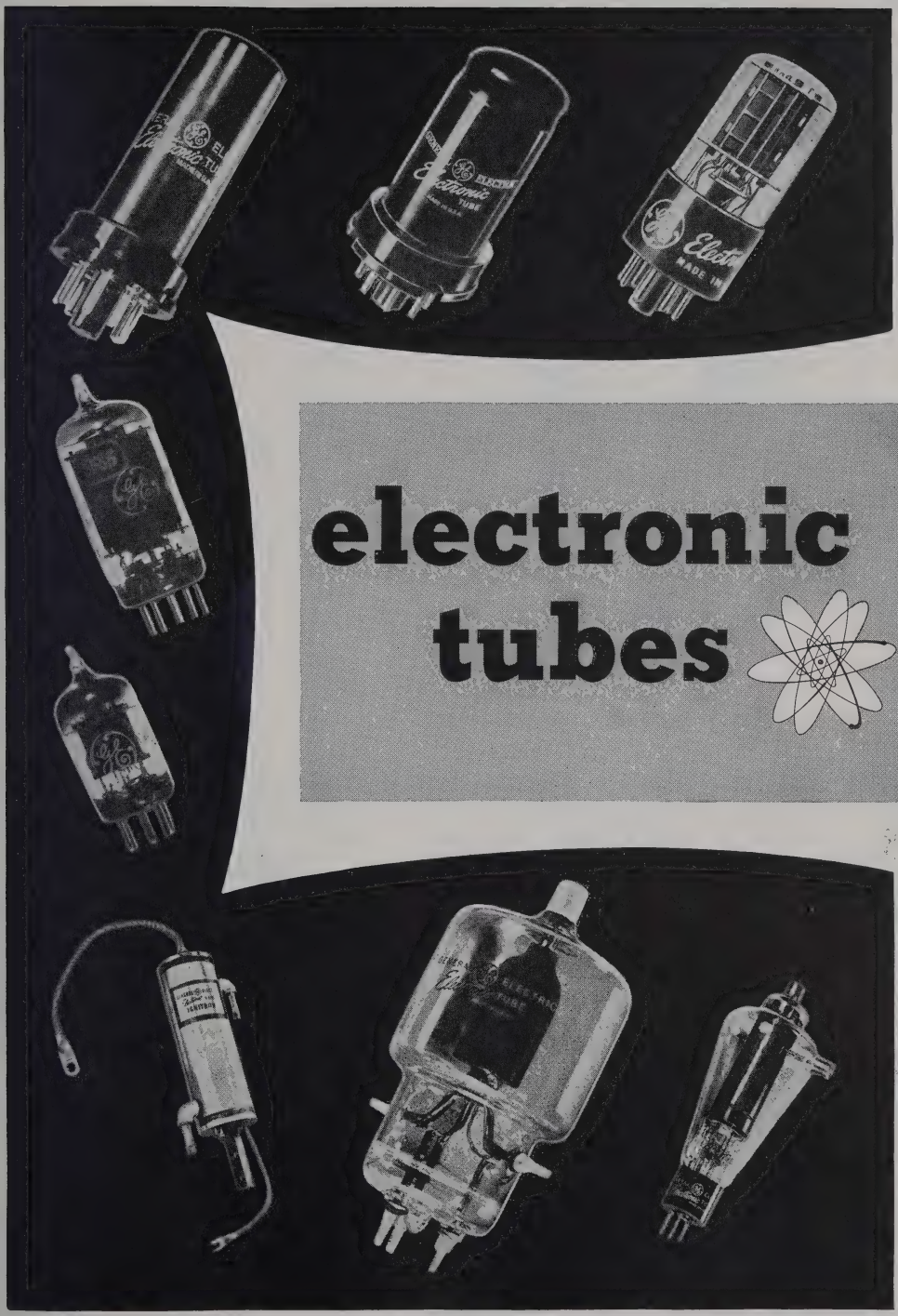
SCHEDULE B-1

WIRE CONNECTORS FOR STRANDED CABLES

Wire Holes Extend Half Way Through

SCHEDULE B

Size Stranded Cable	Std. Pkg.	Two Screw Cat. No.	Two Screw Length Inches	Two Screw Price Per 100	Four Screw Cat. No.	Four Screw Length Inches	Four Screw Price Per 100
12 & 14	100	960	1¼	$28.00	.....	.....	.....
10	100	961	1¼	30.00	962	1½	$43.00
8	100	963	1¼	30.00	964	1½	43.00
6 & 7	50	965	1¼	32.00	966	1½	45.00
4 & 5	100	.....	.....	.....	968	1⅞	51.00
2 & 3	100	.....	.....	.....	970	1⅞	55.00
0 & 1	50	.....	.....	.....	971	2⅛	70.00
00	50	.....	.....	.....	972	2½	84.00


electronic
tubes

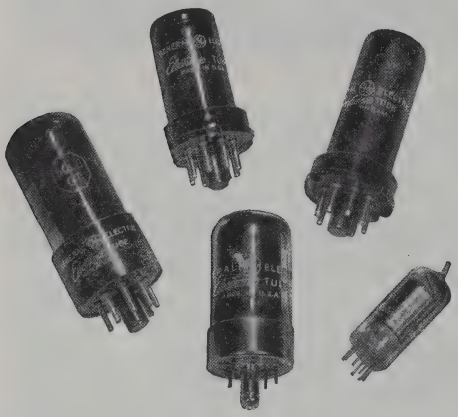
Electronic TUBES

RECEIVING TYPES

Metal

Glass

Miniature



A receiving tube for every radio equipment need. General Electric's complete line offers you a wide selection of metal, miniature and glass types. The G-E monogram means tops in quality and performance. A few receiving types are listed below. Ask for complete prices and ratings:

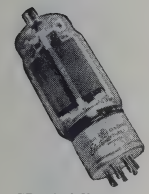
Type	Tubes	Price
1B3GT/8016	Glass	$2.65
1R5	Miniature	2.00
1S5	"	1.80
1T4	"	2.00
1U4	"	2.00
1U5	"	1.80
1X2A	"	2.65
3S4	"	2.00
3V4	"	2.00
5U4-G	Glass	1.50
5V4-G	"	2.40
5Y3-GT	"	1.25
6AB4	"	1.80
6AG5	Miniature	2.40
6AL5	"	1.80
6AQ5	"	2.00
6AU6	"	2.00
6AV5GT	"	2.65
6AV6	"	1.50
6BA6	"	1.80
6BC5	"	2.00
6BE6	"	1.80
6BG6G	Glass	4.80
6BJ6	Miniature	$2.00
6BN6	"	2.90
6BQ6GT	"	3.20
6C4	"	1.65
6CB6	"	2.00
6H6	Metal	1.65
6J6	"	2.65
6J5	"	1.50
6K6-GT	Glass	1.65
6L6-G	"	2.90
6S4	"	1.80
6SA7	Metal	1.65
6SC7	"	2.00
6SG7	"	2.00
6SJ7	"	1.65
6SK7	"	1.65
6SL7-GT	Glass	2.40
6SN7-GTA	"	2.20
6SQ7	Metal	1.50
6T8	Miniature	2.90
6V6-GT	Glass	2.00
6W4GT	"	1.80
6X4	Miniature	1.50
6X5-GT	Glass	1.50
12AT7	Miniature	$2.90
12AU6	"	2.00
12AU7	"	2.40
12AV6	"	1.50
12AX7	"	2.40
12BA6	"	1.80
12BE6	"	1.80
12SA7	Metal	1.65
12SG7	"	2.00
12SK7	"	1.65
12SQ7	"	1.50
19T8	Miniature	2.90
25AV5GT	"	2.65
25BQ6GT	"	3.20
25L6GT	"	1.65
25W4GT	"	2.00
35B5	"	2.00
35C5	"	2.00
35L6-GT	Glass	1.80
35W4	Miniature	1.25
35Z5-GT	Glass	1.35
50B5	Miniature	2.00
50C5	"	2.00
50L6-GT	Glass	1.80

Prices and other data subject to change without notice.

For Best Performance Always Use

GENERAL ELECTRIC

TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES



GL-813 Pliotron

GL-592 Pliotron

GL-7D21 Pliotron

PLIOTRONS—Grid-Controlled High-Vacuum Tubes For Use as Modulators, Amplifiers, Oscillators

Type No.	Price	No. of Elec-trodes	Cathode Volts	Cathode Amp.	Plate Max. Volts	Plate Max. Amp.	Plate Max. Input, Watts	Plate Max. Dissi-pation, Watts	Max. Freq. Mc. @ Max. Plate Input	Max. Freq. Mc. @ 50% Max. Plate Input
GL-2C39	$41.50	3	6.3	1.1	350	0.045	15.8	4.8	500	----------
GL-2C43	29.00	3	6.3	0.9	500	0.040	16.7	6.7	3370	----------
•GL-7D21	285.00	4	6.3	30.0	4000	1.0	3000	1200	110	----------
■GL-9C24	550.00	3	6.3	240	6500	2.0	12000	5000	220	----------
GL-592	33.00	3	10	5.0	3500	0.250	600	200	110	----------
GL805	13.50	3	10	3.25	1500	0.210	315	125	30	80
GL-807	2.50	5	6.3*	0.90	600	0.100	60	25	60	125@55%
					750	**0.100**	**75**	**30**		
GL-812-A	4.05	3	6.3	4.00	1250	0.175	175	45	30	100@55%
					1500	**0.175**	**260**	**65**		
GL-813	16.00	5	10.0	5.00	2000	0.180	360	100	30	120@50%
					2250	**0.225**	**500**	**125**		
GL-814	14.25	5	10.0	3.25	1250	0.150	180	50	30	75@64%
					1500	**0.150**	**225**	**65**		
•GL-833-A	49.50	3	10.0	10.0	4000	0.500	1800	400	30	75@72%
					4000	**0.500**	**2000**	**450**		
■GL-862-A	1322.00	3	33	207.0	20000	10.00	200000	100000	1.6	----------
■GL-880	483.00	3	12.6	320.0	15000	4.5	67500	20000	25	100
■GL-889-A	210.50	3	11	120	8500	2.00	16000	5000	50	150
GL-889R-A*	285.00	3	11	120	8500	2.00	16000	5000	40	100
■GL-893-A*	630.00	3	10 §	61.0§	20000	4.00	70000	20000	5	40
•GL-893A-R*	1150.00	3	10 §	61.0§	20000	4.00	70000	20000	5	25
GL-8000	14.50	3	10	4.5	2500	0.300	750	175	30	100
■GL-8002	150.00	3	16	38	3500	1.00	3000	1200	150	300
•GL-8002-R	173.00	3	16	38	3500	1.00	3000	1200	120	200

Figures in bold type are ICAS ratings.
*Heater-type cathode.
*Lower prices apply when new tube is purchased and radiator in good condition is returned prepaid to Schenectady.
§Single-, three-, or six-phase filament. Voltage is per strand, current is per terminal.
•Forced-air cooled type. ■Water-cooled type.

GL-502-A
Midget Thyratron

GL-5560/FG-95
Thyratron

THYRATRONS—Grid-Controlled Gaseous-Discharge-Rectifier Tubes

Type No.	Price	No. of Elec-trodes	Cathode Volts	Cathode Amp.	Anode Peak Volts	Anode Peak Amp.	Anode Avg. Amp.	Starting Grid Voltage
GL-3C23	$12.50	3	2.5	7.0	1250	6.0	1.5	Neg.
GL-5557/FG-17	7.75	3	2.5	5.0	5000	2.0	0.5	Neg.
FG-27-A	23.00	3	5.0	4.5	1000	10.0	2.5	Neg.
GL-5560/FG-95	25.00	4	5.0	4.5	1000	15.0	2.5	Var.
			†5.5	4.5	1000	30.0	0.5	Var.
FG-105	48.00	4	5.0	10.0	2500	40.0	6.4	Var.
			‡5.5	11.0	750	77.0	2.5	Var.
			‡5.5	10.0	10000	16.0	4.0	Var.
FG-172	65.00	4	5.0	10.0	2000	40.0	6.4	Var.
			‡5.5	11.0	750	77.0	2.5	Var.
GL-502-A	1.85	4	6.3	0.6	1300	1.0	0.100	Neg.

†These ratings apply only when the tube is used for ignitor firing.
‡These ratings apply only when the tube is used in thyratron welding-control service.
Prices and data subject to change without notice.

There's a G-E Electronic Tube for Every Purpose

- Pliotrons
- Ignitrons
- Phasitron
- Glow Tubes
- Thyratrons
- Phototubes
- Ballast Tubes
- Vacuum Capacitors
- Phanotrons
- Lighthouse Tubes
- Cathode-RayTubes
- Vacuum Switches
- Kenotrons

For complete prices, description and ratings—ask for EXT-10E. ⟶

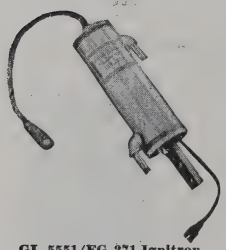
TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

GL-5558/FG-32 Phanotron

GL-872-A/872 Phanotron

GL-8020 Kenotron

GL-5552/FG-235-A Ignitron



GL-5551/FG-271 Ignitron

PHANOTRONS—Gaseous or Mercury-Vapor Rectifier Tubes

Type No.	Price	No. of Electrodes	Cathode Volts	Cathode Amp.	Anode Peak Volts	Anode Peak Amp.	Anode Avg. Amp.
GL-5558/FG-32	$14.00	2	5.0	4.5	5000	15	2.5
GL-5561/FG-104	38.00	2	5.0	10	3000	40‡	6.4
FG-280	56.00	2	5.0	10	2000	40	6.4
GL-866-A	1.95	2	2.5	5	10000	1	0.25
GL-869-A	132.00	2	5	19	20000	19	2.5
GL-870-A	1300.00	2	5	65	16000	----	75.0
GL-872-A/872	8.20	2	5	7.5	10000	5	1.25

‡Quadrature operation.

KENOTRONS—High-Vacuum Rectifier Tubes

Type No.	Price	No. of Electrodes	Cathode Volts	Cathode Amp.	Plate Max. Inv. Volts	Plate Max. Amp.	Plate Avg. Amp.
GL-411	$225.00	2	10	14.5	100000	0.300	.....
GL-836	9.00	2	2.5*	5.0	5000	1.0	0.25
GL-1641	2.75	3	5.0	3.0	2120	0.250	.....
GL-8013-A	10.30	2	2.5	5.0	40000	0.150	0.020
GL-8020	22.00	2	5.0	6.0	40000	0.750	0.100
			5.8▲	.....	12500▲	2▲	.....

*Heater-type cathode.

▲Surge-limiting diode operation.

IGNITRONS—High-Peak Current, Pool-Cathode Tubes

Type No.	Price	Supply Volts Rms.	Maximum Ratings Corresponding Average Anode Current, Amps.	Maximum Ratings Maximum Average Anode Current, Amps.	Maximum Ratings Kva Demand	Corresponding Kva Demand
GL-5552/FG-235-A*	$121.00	250–600	1200	75.6	140	400
GL-5555/FG-238-B†#	370.00	2400	2400	135	207	1105
GL-5553/FG-258-A*	265.00	250–600	2400	192	355	800
GL-5554/FG-259-B†#	190.00	2400	1200	75	113	600
GL-5551/FG-271*	80.50	250–600	600	30.2	56.0	200
GL-5550/GL-415*	50.00	250–600	300	12.1	22.4	100

*Ratings are for voltages of 600 volts rms. and below. Ignitor requirements for all welding-control types are 200 volts and 30 amperes.

†Typical ignitor requirements for power-rectifier ignitrons are 75-125 volts, 15-20 amperes. Maximum requirements are 150 volts, 40 amperes.

#In addition to ratings given above for welder-control service the GL-5555/FG-238-B and GL-5554/FG-259-B may be used as power-rectifiers in the 125 to 900 d-c voltage fields (ratings will be supplied upon request).

Prices and other data subject to change without notice.

G-E TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

GL-5623/B-47

BALLAST TUBES—Resistor Type Tubes Used to Maintain a Constant Average Current

Type No.	Price	Volts Min.	Volts Max.	Amperes Min.	Amperes Max.
GL-5621/B-6	$12.00	15	21	0.95	1.01
GL-5622/B-25	11.00	7	16	1.07	1.16
GL-5624/B-46	12.00	8	18	2.70	3.25
GL-5623/B-47	12.00	8	18	2.05	2.35
GL-5620/FB-50	13.00	5	8	0.225	0.275

GL-OC3/VR-105

GLOW TUBES—Cold Cathode Tubes For Use as Voltage Regulators

Type No.	Price	Start. Supply Voltage, D-c Min.	Operating Voltage Maintained, D-c Approx.	Operating Current Milliamperes Min.	Operating Current Milliamperes Max.
GL-OA3	$1.35	105	75	5	40
GL-OB3	1.20	125	90	10	30
GL-OC3	1.35	133	105	5	40
GL-OD3	1.30	185	150	5	40
GL-874	3.10	125	90	10	50

PJ-22

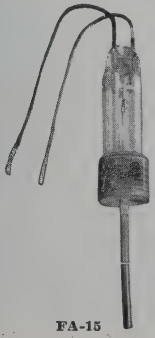
PHOTOTUBES—Light-Sensitive Tubes

Type No.	Price	Gas or Vacuum	Spectral Response RMA Standard	Anode Volts	Sensitivity in Microamperes per Lumen	Window Dimensions in Inches	Max. Amb. Temp. C
GL-1P29/FJ-401	$2.95	Gas	S3	100	----	11/16x1 5/8	100
PJ-22	2.50	Vacuum	S1	500	20	11/16x1 5/8	100
FJ-405	★						
GL-441	4.50	Vacuum	S4	250	45	11/16x1 5/8	50
GL-868/PJ-23	2.50	Gas	S1	100	50	11/16x1 5/8	100
GL-917	3.50	Vacuum	S1	500	20	11/16x1 5/8	100
GL-918	3.10	Gas	S1	100	110	11/16x1 5/8	100
GL-919	3.50	Vacuum	S1	500	20	11/16x1 5/8	100
GL-920	4.15	Gas	S1	100	75	1/4x1 (each unit)	100
GL-921	2.05	Gas	S1	90	135	5/8x7/8	100
GL-922	1.95	Vacuum	S1	500	20	5/8x7/8	100
GL-923	2.05	Gas	S1	90	135	11/16x7/8	100
GL-927	2.50	Gas	S1	90	125	7/16x7/8	100
GL-929	1.50	Vacuum	S4	250	45	11/16x7/8	50
GL-930	1.65	Gas	S1	90	135	11/16x7/8	100
GL-931-A	9.75	Vacuum	S4	1250	2.0 amperes	11/32x1	50
GL-935-A	7.80	Vacuum	S5	250	30	11/16x1 3/8	50

GL-5629/FA-14

★Use GL-935-A.

GL-5628/FA-13



FA-15

VACUUM GAGES—To Measure Gas Pressure

Type No.	Price	Volts	Range in Microns
GL-5628/FA-13	$23.50	6	0–600
GL-5629/FA-14	19.00	6	§

§Used with FA-13 to compensate for temperature and voltage changes.

VACUUM SWITCHES—Single-Pole, Double-Throw

Type No.	Price	Max. Hold-off Voltage, Peak	Max. Interrupting Rating, Amperes
GL-1S21	$15.50	7500	15
GL-5626/FA-15	20.00	3000	10
GL-5627/FA-6	24.00	900	10

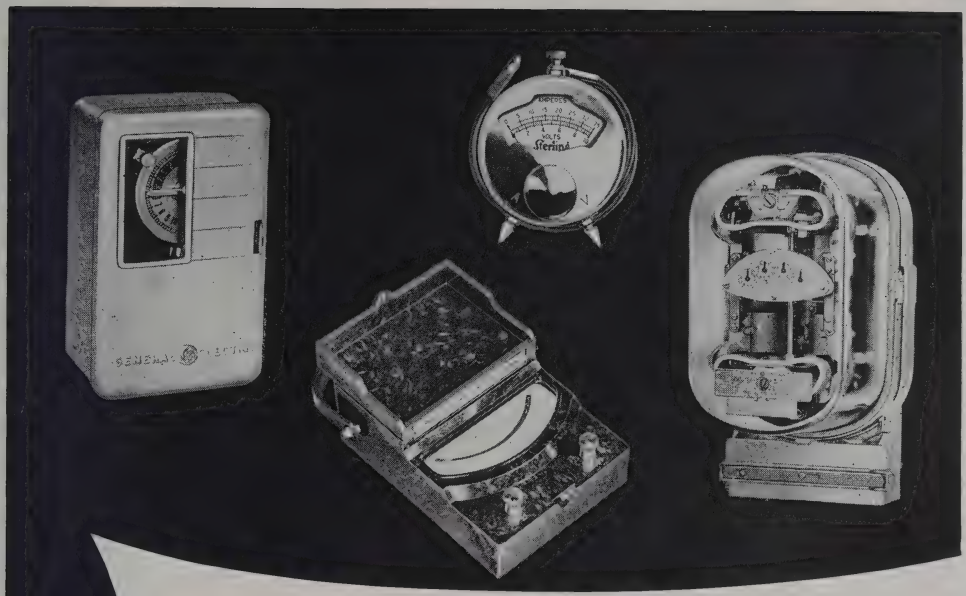
G-E TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

Interchangeability Chart

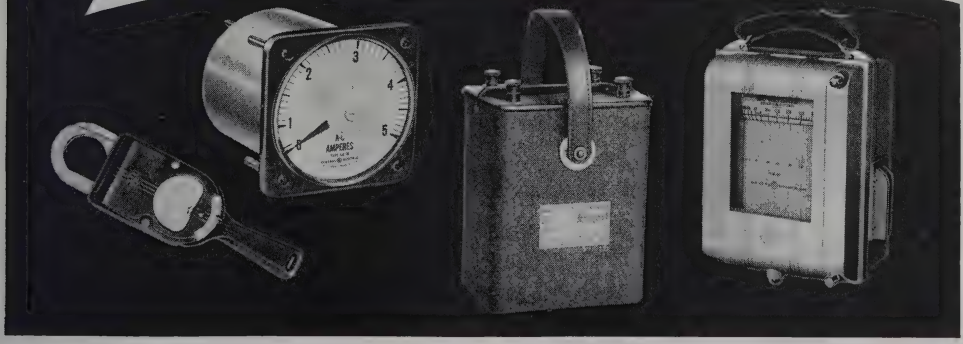
The tubes listed below under "other types" are arranged in numerical order and the G-E equivalent types, which are completely interchangeable, are shown in the adjacent column.

Other Types	G-E Equivalent Type No.	Other Types	G-E Equivalent Type No.	Other Types	G-E Equivalent Type No.
CE-1**	PJ-22	WL-33	GL-5720/FG-33	893	GL-893-A
CE-1†	GL-868/PJ-23			893A	GL-893-A
CE-11V	GL-917	WL-41	GL-5830/FG-41	893A-R	GL-893A-R
CE-20	GL-827			895	GL-895
CE-21	GL-920	WL-414	GL-414	895-R	GL-895-R
CE-31V	GL-919	WL-469	FP-285	WL-896	GL-5620/FB50
CE-306	GL-5545	WL-473	GL-473	898	GL-898-A
EL-C36	GL-5632	WL-469	FP-285	898-A	GL-898-A
EL-C6J	GL-5545	WL-473	GL-473	905	GL-805
EL-5685	GL-5545	WL-502-A	GL-502-A	930-B	GL-830-B
NL-710	GL-5632	WL-616	GL-5625/KC-4	938	GL-838
NL-715/5557	GL-5557/FG-17	WL-672-A	GL-672-A	942	GL-842
		WL-678	GL-678	945	GL-845
RK-25	GL-802	575-A	GL-575-A	949	GL-849
RK-25B	GL-802	WT-606	GL-2D21	951	GL-851
RK-28A	GL-803	WL-734	PJ-22	966	GL-866-A/866
RK-30	GL-800	WL-735	GL-868/PJ-23	966A	GL-866-A/866
RK-31	GL-830-B	800	GL-800	967	FG-17
RK-36	GL-806	801	GL-801-A	972	GL-872-A/872
RK-39	GL-807	802	GL-802	972A	GL-872-A/872
RK-44	GL-837	803	GL-803	975-A	GL-575-A
RK-47	GL-814	805	GL-805	1613	GL-1613
RK-57	GL-805	806	GL-806	1614	GL-1614
RK-58	GL-838	807	GL-807	1616	GL-1616
RK-60	GL-806	809	GL-809	1619	GL-1619
HF-60	GL-1641	810	GL-810	1623	GL-1623
T-155	GL-8005	811-A	GL-811-A	1624	GL-1624
HF-130	GL-835	812-A	GL-812-A	1625	GL-1625
HF-130	FP-285	813	GL-813	1701	GL-5557/PG-17
203A	GL-203-A	814	GL-814		
204A	GL-204-A	815	GL-815	2050	GL-502-A*
207	GL-207	816	GL-816	WL-5550/681	GL-5550/GL-415
211	GL-211	826	GL-826		
211C	GL-835	828	GL-828	WL-5551/652	GL-5551/FG-271
211C	FP-285	829-B	GL-829-B		
211D	FP-285	833-A	GL-833-A	WL-5552/651	GL-5552/FG-235-A
217C	GL-217C	835	GL-835		
242A	GL-242-C	836	GL-836	WL-5553/655	GL-5553/FG-258-A
242B	GL-242-C	837	GL-837		
242C	GL-242-C	838	GL-838	WL-5554/679	GL-5554/FG-259-B
250T	GL-806	842	GL-842		
250-TL	GL-806	843	GL-843	WL-5555/653-B	GL-5555/FG-238-B
261A	GL-835	845	GL-845		
266B	GL-266-B	849	GL-849	5556	GL-5556/PJ-8
276-A	GL-276-A	851	GL-851	WL-5557/17	GL-5557/FG-17
295A	GL-203-A	857-B	GL-857-B		
303A	GL-203-A	858	GL-858	WL-5558/32	GL-5558/FG-32
304A	GL-204-A	862	GL-862-A		
F-307-A	GL-207	866	GL-866-A	WL-5559/57	GL-5559/FG-57
KU-627	GL-627	866A	GL-866-A		
311	GL-211	866A/866	GL-866-A	WL-5561/104	GL-5561/FG-104
311CT	GL-835	868	GL-868/PS-23		
311CT	FP-285	869-B	GL-869-B	WL-5685	GL-5545
311T	GL-211	870-A	GL-870-A	5691	GL-5691
VR-105	GL-0C3	872	GL-872-A	5692	GL-5692
VR-150	GL-0D3	872-A	GL-872-A	5693	GL-5693
WE319A	GL-872-A	872-A/872	GL-872-A	8002	GL-8002
WE322A	GL-803	880	GL-880	8002R	GL-8002-R
331A	GL-805	889	GL-889-A	8005	GL-8005
342B	GL-242-C	889A	GL-889-A	8008	GL-8008
342C	GL-242-C	889-R	GL-889-R-A	8009	GL-8009
F-353A	GL-872-A	889-R-A	GL-889-R-A	8012-A	GL-8012-A
F-357A	GL-857-B	891	GL-891	8013-A	GL-8013-A
358A	GL-858	891-R	GL-891-R	8020	GL-8020
361-A	GL-835	892	GL-892		
376A	GL-276-A	892-R	GL-892-R		

**Vacuum type phototube. †Gas type phototube. *Metal tube—shell connected to cathode.



meters, instruments, instrument transformers, time switches and timing devices



G-E WATTHOUR METERS

All General Electric a-c watthour meters have substantially the same operating characteristics. The mechanical details differ with the application, type of mounting, and circuit.

These meters have been called "wide-limit" meters because of their straight-line characteristics. When correctly adjusted, the 15-ampere meter, for instance, has a load-registration curve that practically falls on the 100-per-cent line over the range from 0.5 to 60 amperes.

Long-life accuracy is assured by the use of alnico magnets, a low-friction bearing system, and a one-piece supporting frame for accurate and permanent positioning of all parts.

General Electric meters use either a jewel-type ball-bearing system, as in the I-30; or a magnetic suspension of the moving element, as on the new I-50. Both of these bearing systems have extremely long life and low friction.

INDEX OF TYPES
For Alternating Current*

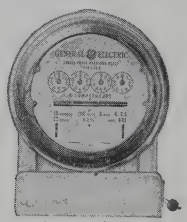
Mounting	Type	Max. Rated Amp	Max. Volts	Circuit
Wall	I-50	15	240	1-element, 2- or 3-wire, 1-phase
Wall	I-30	50	240	1-element, 2- or 3-wire, 1-phase
Switchboard	IS-8	....	240	1-element, 2-wire, 1-phase
Wall	V-2	50	600	2-element, 3-wire
Wall	V-3	50	600	2-element, 3-wire, 3-phase
Wall	V-4	50	120	3-element, 4-wire, Y, 3-phase
Wall	V-5	50	120	2-element, 4-wire, Y, 3-phase
Wall	V-6	50	240	2-element, 4-wire, △, 3-phase
Wall	V-7	50	240	3-element, 4-wire, △, 3-phase
Wall	V-9	50	240	Tot. 3-wire, 2- or 3-phase, and 2- or 3-wire, 1-phase
Wall	V-10	50	240	
Switchboard	DS-19	....	600	2-element, 3-wire, 1-, 2-, or 3-phase, and 4-wire, 2-phase
Switchboard	DS-20	....	120	3-element, 4-wire, Y, 3-phase

* Information and prices for d-c meters on request.

SINGLE-PHASE, SINGLE-ELEMENT 60-CYCLE

Types I-50-S and I-50-A

Type I-50-S



Type I-50-A

The Type I-50 watthour meter is the new G-E single-phase meter with magnetic suspension of the moving element. It also incorporates a new electromagnet and a completely redesigned damping system. With other features, these new design characteristics assure easier handling, greater sustained accuracy, and improved stability of calibration.

Type I-50 meters are available in either the socket or bottom-connected styles. Base dimensions are standard.

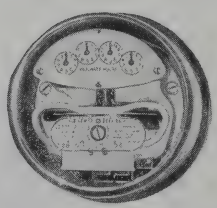
The Type I-50 meter can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter.

Type Register	1-50-S Cat. No.	1-50-A Cat. No.	List Price Each
15 amp, 120 volts, 2-wire—60 cycles			
Pointer	462X87	462X91	**$16.12**
Cyclometer, Plain	462X95	462X99	**16.77**
Cyclometer, REA	493X87	493X91	**17.17**

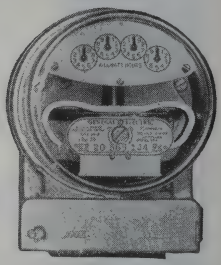
Type Register	1-50-S Cat. No.	1-50-A Cat. No.	List Price, Each
15 amp, 240 volts, 3-wire—60 cycles			
Pointer	462X88	462X92	**$17.45**
Cyclometer, Plain	462X96	463X1	**18.10**
Cyclometer, REA	493X88	493X92	**18.50**

Approximate weights: I-50-S, 5.2 lb net, 6.2 lb ship.; I-50-A, 5.1 lb net, 6.1 lb ship.

TYPES I-30-S AND I-30-A



Type I-30-S



Type I-30-A

The Type I-30-S is the standard meter for socket connection. Connections are made in the socket to receptacles for switch-blade terminals. The approximate dimensions are 7 by 7½ inches.

The Type I-30-A is the standard bottom-connected unit. It is suitable for all conventional applications either with the all-service or enclosed mounting. The approximate dimensions are 5½ by 8½ by 7 inches.

Both the "A" and the "S" types can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter. When ordering meters for voltage outside these limits, the normal operating voltage should be specified.

G-E WATTHOUR METERS

SINGLE-PHASE, SINGLE-ELEMENT, 60-CYCLE—Continued

Amp	Type I-30-S Cat. No	Type I-30-A Cat. No.	List Price, Each
120 Volts, 2-wire, Pointer Register			
5	85X515	85X499	**$16.12**
15	85X516	85X500	**16.12**
50	85X517	85X501	**23.10**
120 Volts, 2-wire, Cyclometer Register			
15	428X8	428X6	**$16.77**
***240 Volts, 3-wire, 4-terminal, Pointer Register**			
5	85X521	85X505	**$17.45**
15	85X522	85X506	**17.45**
50	85X523	85X507	**24.25**

If the universal 2-wire/3-wire, 15-ampere meter is required, order as Cat. No. 408X44 (I-30-S) or Cat. No. 407X89 (I-30-A). List price each, **$17.70.**
Approximate shipping weight, 8 lb.

240 Volts, 3-wire, Cyclometer Register			
15	428X9	428X7	**$18.10**

*240-volt, 2-wire ratings are available at same price.

Meters for Use with Current Transformers Only

Amp	Circuit Rating	Type I-30-S Cat. No.	Type I-30-A Cat. No.	List Price, Each
2.5	2-wire	97X107	85X511	**$19.80**
2.5	2-wire (3-wire)	97X108	85X513	**21.70**
2.5	3-wire		85X514	**21.70**

SOCKETS FOR TYPES I-30-S AND I-50-S METERS†

FOUR-TERMINAL DIE-CAST SOCKETS

Mounting	Outlets	Without Circuit-closing Device		With Circuit-closing Device	
		Cat. No.	List Price Each	Cat. No.	List Price Each
With 1-inch Conduit Outlets					
Vertical‡	2	462X42	**$2.74**	67X977	**$3.25**
Vertical‡	3	493X63	**3.44**	65X925	**4.05**
With 1¼-inch Conduit Outlets					
Vertical‡	2	462X44	**$2.74**	67X978	**$3.40**
Vertical‡	3	493X64	**3.44**	67X926	**4.05**
With ¾-inch Conduit Outlet					
Vertical‡	2	4129379G11	**$2.68**	4129379G12	**$2.68**

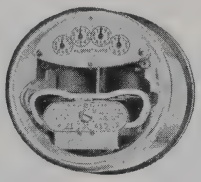
†High-capacity meter sockets for use at 200 amperes, single-phase, are also available. Prices and information on request.

‡The vertical and horizontal forms are identical, except for the position in which the clips are assembled. If horizontal form is required, state on order.

Approximate shipping weight, 2½ lb.

TWO-ELEMENT, 3-WIRE, 60-CYCLE

TYPES V-2-S AND V-2-A



Type V-2-S

Types V-2-S and V-2-A are primarily for use on network systems of two lines and the neutral of a 4-wire Y, 3-phase circuit. The phase displacement of this circuit requires a two-element watthour meter.

The meter is also suitable for other three-wire polyphase circuits, and for three-wire, single-phase circuits where the voltages are so unbalanced that a three-wire, single-element meter will not give the required accuracy.

The Type V-2-S is for socket connection and the Type V-2-A for bottom connection. Approximate dimensions for the "S" type are 7 by 8½ inches; for the "A" type, 7⅛ by 6¾ by 8⅞ inches.

Approximate shipping weight, 12 lb.

Amp	120 Volts*			240 Volts*		
	Type V-2-S Cat. No.	Type V-2-A Cat. No.	List Price, Each	Type V-2-S Cat. No.	Type V-2-A Cat. No.	List Price, Each
15	85X745	85X725	**$40.20**	85X750	85X730	**$44.00**
50	85X747	85X727	**56.00**	85X752	85X732	**59.00**

*The potential coils are wound and rated for the line-to-neutral voltage and these are the values listed. For example, order meters rated 120 volts for use on 120/240-volt, 3-wire circuits.

SOCKETS FOR V-2-S METERS

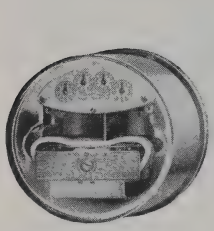
Mounting	Outlets	Without Circuit-closing Device		With Circuit-closing Device	
		Cat. No	List Price, Each	Cat. No.	List Price, Each
With 1-inch Conduit Outlets					
Vertical	2	76X38	**$3.05**	76X44	**$3.65**
Horizontal	2	76X39	**3.05**	76X45	**3.65**
Vertical	3	76X40	**3.80**	76X46	**4.40**
Horizontal	3	76X41	**3.80**	76X47	**4.40**
With 1¼-Inch Conduit Outlets					
Vertical	2	76X48	**$3.05**	76X54	**$3.65**
Horizontal	2	76X49	**3.05**	76X55	**3.65**
Vertical	2	76X50	**3.20**	76X56	**3.75**
Horizontal	2	76X51	**3.20**	76X57	**3.75**
Vertical	3	76X52	**3.80**	76X58	**4.40**
Horizontal	3	76X53	**3.80**	76X59	**4.40**

Approximate shipping weight, 4 lb.

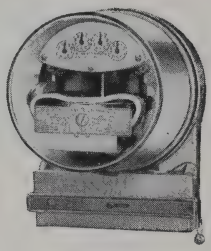
G-E WATTHOUR METERS

TWO-ELEMENT, POLYPHASE, 3-WIRE, 60-CYCLE

TYPES V-3-S AND V-3-A



Type V-3-S



Type V-3-A

Type V-3-A is for wall mounting, bottom-connected, and can be used by itself or in conjunction with the usual polyphase meter trims. The terminal arrangements and dimensions are standard for polyphase meters. A maximum of 15 terminals can be provided, eight terminals for current connections and seven terminals for potential connections, contact-device connections, and test links. Approximate dimensions, 9 15/16 by 6¾ by 6⅞ inches.

Type V-3-S is for socket mounting. Terminal blades up to a maximum of eight provide for connections to almost any standard circuit. This meter requires a socket entirely different from that of the single-element meter or the 2-element Type V-2-S meter. Sockets have up to eight terminals. Approximate dimensions, including socket, 13¾ by 7 by 11 inches.

Amp	Type V-3-S		Type V-3-A		Type V-3-S		Type V-3-A	
	Cat. No.	List Price, Each	Cat. No.	List Price, Each	Cat. No.	List Price, Each	Cat. No.	List Price, Each
	120 Volts				240 Volts			
15	97X122	$44.00	85X885	$48.00	97X125	$47.00	85X890	$51.00
50	97X123	57.00	85X887	61.00	97X126	60.00	85X892	64.00
	480 Volts				600 Volts			
15	97X128	$56.00	85X895	$60.00	97X131	$56.00	85X900	$60.00
50	97X129	69.00	85X897	73.00	97X132	69.00	85X902	73.00

METER FOR USE WITH CURRENT TRANSFORMERS

Amp	Type V-3-S		Type V-3-A		Type V-3-S		Type V-3-A	
	Cat. No.	List Price, Each	Cat. No.	List Price, Each	Cat. No.	List Price, Each	Cat. No.	List Price, Each
	120 Volts				240 Volts			
2.5	85X998	$46.00	85X903	$50.00	85X999	$49.00	85X904	$53.00
	480 Volts				600 Volts			
2.5	86X1	$58.00	85X905	$62.00	86X2	$58.00	85X906	$62.00

Approximate shipping weights: for "S" type, 10 lb; for "A" type, 12 lb.

SOCKETS FOR V-3-S METERS

Rating	Circuit-closing Device	Conduit Outlet, Inches	Cat. No.	List Price, Each
Self-contained	No	1¼	94X994	$14.55
Self-contained	No	2	94X995	15.00
Transformer-rated and self-contained	Yes	1¼	83X788	15.45
	Yes	2	83X789	16.15

Approximate shipping weight, 15 lb.

TWO-ELEMENT, POLYPHASE, 4-WIRE Y, 60-CYCLE

TYPES V-5-S AND V-5-A

This meter has two potential circuits and three current circuits and is intended for use on 4-wire Y, 3-phase circuits, provided the voltage unbalance is less than 1 per cent and the power factor reasonably high. In external appearance they are like the Types V-3-A and V-3-S meters.

Volts	Amp	Type V-5-S		Type V-5-A	
		Cat. No.	List Price, Each	Cat. No.	List Price, Each
120Y	15	86X6	$58.00	85X930	$62.00
120Y	50	86X8	66.00	85X932	70.00

METER FOR USE WITH CURRENT TRANSFORMERS

120Y	2.5	86X24	$60.00	85X948	$64.00

Catalog numbers are for ball-type bearings.

Approximate shipping weights: for "S" type, 10 lb; for "A" type, 12 lb.

SOCKETS FOR V-5-S METERS

Rating	Circuit-closing Device	Conduit Outlet, Inches	Cat. No.	List Price, Each
Self-contained	No	1¼	83X784	$14.55
Self-contained	No	2	83X785	15.00
Self-contained	Yes	1¼	94X996	15.45
Self-contained	Yes	2	94X997	16.15
Transformer-rated and self-contained	Yes	1¼	83X786	15.45
	Yes	2	83X787	16.15

Approximate shipping weight, 15 lb.

TWO-ELEMENT, POLYPHASE, 4-WIRE △, 60-CYCLE

TYPES V-6-S AND V-6-A

This meter has two 240-volt potential circuits and three current circuits and is intended for use on 4-wire △, 3-phase circuits, provided the two, 120-volt voltages of the lighting circuit are reasonably balanced. The external appearance of the meters is the same as Types V-3-A and V-3-S meters.

Volts	Amp	Type V-6-S		Type V-6-A	
		Cat. No.	List Price, Each	Cat. No.	List Price, Each
240	15	86X31	$54.00	85X960	$58.00
240	50	86X33	64.00	85X962	68.00

G-E WATTHOUR METERS

TWO-ELEMENT, POLYPHASE, 4-WIRE △, 60-CYCLE—Continued

METERS FOR USE WITH CURRENT TRANSFORMERS

Volts	Amp	Type V-6-S		Type V-6-A	
		Cat. No.	List Price, Each	Cat. No.	List Price, Each
240	2.5	.....	....	97X134	**$60.00**

Approximate shipping weights: for "S" type, 10 lb; for "A" types, 12 lb.

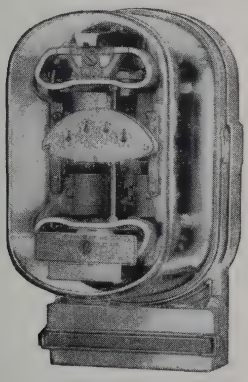
SOCKETS FOR V-6-S METERS

Rating	Circuit-closing Device	Conduit Outlet, Inches	Cat. No.	List Price Each F.o.b. West Lynn, Mass.
Self-contained	No	1¼	83X784	**$14.55**
Self-contained	No	2	83X785	**15.00**
Self-contained	Yes	1¼	94X996	**15.45**
Self-contained	Yes	2	94X997	**16.15**

Approximate shipping weight, 15 lb.

THREE-ELEMENT, POLYPHASE. 60-CYCLE

TYPES V-4-A, V-7-A, V-9-A, AND V-10-A



Type V-4-A meter is intended for 4-wire Y, 3-phase circuits. It has three potential and three current circuits.

Type V-7-A Meter is for 4-wire △, 3-phase circuits. It has one 240-volt (200-volt) element and two 120-volt elements.

Type V-9-A and V-10-A meters are used for totalizing one 3-wire, 2- or 3-phase power circuit and one single-phase lighting circuit, either 2- or 3-wire. Information and prices upon request.

Type V-4-A				Type V-7-A			
Volts	Amp	Cat. No.	List Price, Each	Volts	Amp	Cat. No.	List Price, Each
120Y	15	86X422	**$80.00**	240	15	86X427	**$90.00**
120Y	50	86X423	**96.00**	240	50	86X428	**107.00**

METERS FOR USE WITH CURRENT TRANSFORMERS

120Y	2.5	86X425	**$85.00**	240	2.5	86X429	**$95.00**

Approximate shipping weight, 22 lb.

G-E SWITCHBOARD WATTHOUR METERS

For Use with Instrument Transformers

This line of back-connected single-phase and polyphase meters combines the elements of the front-connected meters with the narrow 5½-inch universal-type switchboard case.

These meters are listed only for use with instrument transformers, i.e., in 2.5-ampere ratings. However, they are also available in 5- or 10-ampere self-contained ratings. Self-contained sizes have liberal overload rating. These meters may, therefore, be used with good accuracy on loads up to 300 per cent of normal load and with ample margin of safety on loads somewhat in excess of this.

Test links are not provided for these meters. Separate test blocks are available for this purpose.

Type DS-20

SINGLE-ELEMENT, SINGLE-PHASE

TYPE IS-8

Single-phase meters are available only in 2-wire construction.

For 3-wire service, the Type DS-19 meter is recommended; 3-wire, single-phase circuits can, however, be metered with the 2-wire meter, Cat. No. 97X335, when connected with double-primary, single-secondary, 3-wire type of current transformers.

Volts	Amp	Cat. No	List Price, Each
120	2.5	97X333	**$44.00**
*120	2.5	97X334	**44.00**
*240	2.5	97X335	**46.00**

* No potential transformers

Approximate shipping weight, 20 lb.

Approximate dimensions, 6 by 5½ by 7 inches.

G-E SWITCHBOARD WATTHOUR METERS

TWO-ELEMENT, 3-WIRE, 1-, 2-, OR 3-PHASE; 4-WIRE, 2-PHASE

TYPE DS-19

Volts	Amp	Cat. No.	List Price, Each
115	2.5	97X339	**$79.00**
*120	2.5	97X340	**79.00**
*240	2.5	97X341	**82.00**
*480	2.5	97X342	**102.00**
*600	2.5	97X343	**102.00**

* No potential transformers.

Approximate shipping weight, 25 lb.
Approximate dimensions, 12 by 5½ by 7 inches.

THREE-ELEMENT, 4-WIRE Y, 3-PHASE

TYPE DS-20

Volts	Amp	Cat. No.	List Price, Each
120	2.5	97X346	**$108.00**
*120	2.5	97X347	**108.00**

* No potential transformers.

Catalog numbers are for ball-type bearings. Jewel-pivot bearings are available at no increase in cost.

Approximate shipping weight, 35 lb.

Approximate dimensions, 12 by 5½ by 7 inches.

Catalog numbers and prices do not include instrument transformers. Specify ratios of transformers with which meter is to be used. It is standard practice (for meters of modern construction) to use 2.5-ampere meters with current transformers having 5 ampere secondary rating, since this results in the best over-all accuracy and performance.

G-E TYPE IB-10 PORTABLE STANDARDS

This new G-E standard combines, for the first time, the capacity essential for the testing of both high- and low-current-rated meters with the light weight and small size of the best low-capacity standards.

Wide operating range and excellent testing flexibility have been obtained by the use of four current coils—1-, 5-, 12.5-, and 50-ampere. All coils will carry 200-per-cent current continuously. Thus, service meters of all ratings up to 100 amperes can be tested.

The Type IB-10 standard represents advancement in all details. It has a completely new electromagnet with low inherent errors and excellent load, voltage, and temperature characteristics. Excellent balance (accuracy) between current circuits is inherent in the design.

The IB-10 is the first standard to use the G-E anti-parallax arrangement of dial and pointers. This promotes speed and accuracy because the reading is always the same regardless of the angle from which the scale is viewed. The large sweep hand, coupled to the disk shaft, makes one revolution for each one of the disk. The antiparallax scale is divided into 100 clearly marked divisions in order that readings even closer than one one-hundredth of a revolution can easily be taken. Small dials within the large one make it possible to take readings up to 100 revolutions of the disk.

Volts	Amp	Cat No.	List Price Each	Approx Wt. Lb		Dimensions, Inches		
				Net	Ship.	High	Wide	Deep
120–240	1–5–12.5–50	99X943	**$240.00**	11¾	23	8⅛	6⅜	6½

MULTIPLIER BOXES

Multiplier boxes are used to increase the voltage range. They are calibrated and furnished with the standard.

Single rating, 480 volts.....Add $60 List
Double rating, 480 and 600 volts.....Add $80 List

G-E TYPE MC PHASE-SHIFTING TRANSFORMERS

For Var (reactive volt-ampere) Metering

These autotransformers can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the autotransformer. When ordering autotransformers for voltages outside these limits, the normal operating voltage should be specified. Types listed are without test switches.

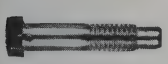
Voltage		Frequency, Cycles	Cat. No	List Price, Each
Primary	Secondary			
Type MC-21, 3-wire, 3-phase				
120	120	50–60	546X6	**$21.00**
240	240	50–60	546X7	**22.00**
Type MC-31, 4-wire Δ, 3-phase				
240	240	50–60	546X10	**$22.00**

Voltage		Frequency, Cycles	Cat. No	List Price, Each
Primary	Secondary			
Type MC-22, 4-wire Y, 3-phase				
120	120	50–60	546X11	**$25.00**

Other ratings and types are available. Information and prices upon request.

G-E JEWEL BEARINGS FOR WATTHOUR METERS

JEWEL-PIVOT-TYPE BEARINGS

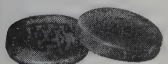


Cat. No. **39924** sapphire-mounted in screw. For d-c meters, Types C, C-5, C-6, C-7, C-9, and C-15; single-phase, house and switchboard meters, Types I, I-8, IS-2 and IS-3; and polyphase meters Types D-3, D-4, D-9, DS-2, DS-3, DS-4, DS-5, and DS-9.

Cat. No. **39924** .....list price ea. **$0.60**
Shipped in standard packages of 10

Cat. No. **68X1** sapphire oil-tight jewel screw with removable plug. For single-phase meters, Types I-14, I-15, I-16, I-18, I-20, I-30, IS-4, IS-5, IS-6, IS-7, IS-8, IS-9, IS-10, and IS-11; for polyphase meters Types D-6, D-7, D-8, D-14, D-15, DS-6, DS-7, DS-11, DS-12, DS-19, DS-20, DS-21, DS-23, DS-34, DS-35, DS-38, DS-39, DS-40, DS-41, and V-2 to V-10 inclusive; and for test meters, Types IB-5, IB-6, IB-7, IB-8, IB-9, and IB-10.

Cat. No. **68X1** .....list price ea. **$0.40**
Shipped in standard packages of 10



Cat. No. **68X2**—Jewel only (replacement) mounted in plugs for use in Cat. No. **68X1** above.

Cat. No. **68X2** .....list price ea. **$0.30**
Shipped in standard packages of 10

PIVOTS

Cat. No. **295309** G-E pivots. For use in combination with jewels listed above.

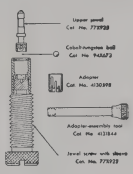
Cat. No. **295309**—covers one box containing 25 pivots .....list price per box **$3.80**

G-E METER JEWEL OIL

Cat. No. **4126220**, 1-dram bottle in Container .....price ea. **$0.60**

Cat. No. **66X727**, 1-ounce bottle.....price ea. **$1.80**

JEWEL-BALL-TYPE BEARINGS



Cat. No. **94X672** enclosed type. Enclosed-type ball bearings are recommended for meters: Types I-16, I-20, I-30, IS-8, IS-9, IS-10, IS-11, and V-2 to V-10 inclusive in 50- and 60-cycle rating; also these meters with the letter M or W added to the type designation.

Cat. No. **94X672**—jewel-screw assembly with ball .....list price ea. **$0.86**
Shipped in standard packages of 10

The following Cat. No. are for replacement parts for 94X672.

Cat. No. **77X922** lower jewel screw with sleeve ..... list price ea. **$0.40**

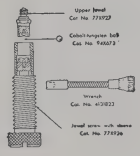
Cat. No. **77X925** upper jewel.....list price ea. **$0.40**
Above shipped in standard packages of 10

Cat. No. **94X673** lot of 25 balls in vial .....list price ea. **$1.50**

Cat. No. **4130598**—adapter for use with meters originally having pivot-type bearings .....list price per **100**, **$6.00**

Cat. No. **4131844**—adapter assembly tool .....list price ea. **$0.10**

OPEN-TYPE



Open-type ball bearings are recommended for meters: Types I-14, I-18, IS-4, IS-5, IS-6, IS-7, D-6, D-7, D-14, D-15, DS-6, DS-7, DS-19, DS-20, DS-21, DS-23, DS-34, DS-35, DS-38, DS-39, DS-40 and DS-41 in 50- and 60-cycle ratings; also these meters with the letter M or W added to the type designation.

The following Cat. No. make up the component parts of the open type:

Cat. No. **77X926**—lower jewel screw with sleeve .....list price ea. **$0.40**

Cat. No. **77X927**—upper jewel...list price ea. **$0.40**
Above are shipped in standard packages of 10

Cat. No. **94X673**—lot of 25 balls in vial .....list price ea. **$1.50**

Cat. No. **4131823** wrench for use on upper jewel .....list price ea. **$0.30**

G-E WATTHOUR DEMAND METERS

All catalog numbers call for "Universal Type" M-30 Register. If direct-reading register is desired, add $3.00 to list price.

TYPE IM-30-A

With Type M-30 Register

Amp	Full-scale Kw	15-min Interval Cat. No.	30-min Interval Cat. No.	List Price, Each
120 Volts, 2-wire				
15	2X2.5	487X4	487X10	**$47.95**
50	2X10	487X6	487X12	**55.30**
240 Volts, 3-wire, 4-terminal				
15	2X5	487X16	487X24	**$49.30**
50	2X20	487X18	487X26	**56.60**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Circuit	Volts	Amp	Full-scale Kw	15-min Interval Cat. No.	30-min Interval Cat. No.	List Price, Each
2-wire	120	2.5	2X0.5	487X46	487X48	**$51.80**
2-wire	*120	2.5	2X0.5	487X50	487X52	**51.80**
2-wire	*240	2.5	2	487X54	487X56	**53.80**
3-wire	*240	2.5	2	487X58	487X60	**53.80**

* No potential transformers.

Approximate shipping weight, 15 lb.

All instruments listed are in a 60-cycle rating. Catalog numbers are for ball-type bearings.

TYPE IM-30-S

With Type M-30 Register

These meters can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside these limits, the normal operating voltage should be specified.

Amp	Full-scale Kw	15-min Interval Cat. No.	30-min Interval Cat. No.	List Price, Each
120 Volts, 2-wire				
15	2X2.5	487X64	487X70	**$47.95**
50	2X10	487X66	487X72	**55.30**
240 Volts, 3-wire, 4-terminal				
15	2X5	487X76	487X84	**$49.30**
50	2X20	487X78	487X86	**56.60**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Circuit	Volts	Amp	Full-scale Kw	15-min Interval Cat. No.	30-min Interval Cat. No.	List Price, Each
2-wire	120	2.5	2X0.5	487X90	487X92	**$51.80**
2-wire	*120	2.5	2X0.5	487X94	487X96	**51.80**
2-wire	*240	2.5	2	487X98	488X1	**53.80**

* No potential transformers.

TYPE VM-2-S

With Type M-30 Register

These meters are for use on standard 3-wire circuits. They are particularly intended for use on circuits consisting of two "line" wires and the "neutral" obtained from a 4-wire Y, 3-phase circuit. They are also suitable for use on a 3-wire, single-phase circuit where the voltage unbalance makes a two-element meter desirable. The meters can also be used for 3-wire, 2- or 3-phase circuits.

The Type VM-2 meters are not furnished for use with instrument transformers. If such meters are desired, use Type VM-3.

These meters can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside these limits, the normal operating voltage should be specified.

Volts	Amp	Full-scale Kw	15-min. Interval Cat. No.	30-min. Interval Cat. No.	List Price, Each
120	15	2X6	488X41	488X49	**$71.00**
120	50	2X20	488X43	488X51	**86.80**
240	15	2X12	488X57	488X67	**74.80**
240	50	2X40	488X61	488X71	**89.30**

TYPE VM-2-A

With Type M-30 Register

120	15	2X6	488X5	488X13	**$71.00**
120	50	2X20	488X7	488X15	**86.80**
240	15	2X12	488X21	488X31	**74.80**
240	50	2X40	488X25	488X35	**89.80**

Approximate shipping weight. 16 lb.

All instruments listed are in a 60-cycle rating. Catalog numbers are for ball-type bearings.

G-E WATTHOUR DEMAND METERS
Continued

All catalog numbers call for "Universal Type" M-30 Register. If direct-reading register is desired, add $3.00 to list price.

TYPE VM-3-S
With Type M-30 Register

The Type VM-3 is for 3-wire, 2- or 3-phase, or 4-wire, 2-phase circuits. It can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside these limits, the normal operating voltage should be specified.

Volts	Amp	Full-scale Kw	15-min. Interval Cat. No.	30-min. Interval Cat. No.	List Price, Each
240	15	2X12	489X42	489X52	**$77.80**
240	50	2X40	489X46	489X56	**90.80**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Volts	Amp	Full-scale Kw	15-min. Interval Cat. No.	30-min. Interval Cat. No.	List Price. Each
*240	2.5	2X2	489X68	489X70	**$79.80**

TYPE VM-3-A
With Type M-30 Register

240	15	2X12	488X93	489X4	**$81.80**
240	50	2X40	488X97	489X8	**94.80**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

*240	2.5	2X2	489X20	489X22	**$83.80**

* No potential transformers

Approximate shipping weight, 16 lb.

All instruments listed are in a 60-cycle rating. Catalog numbers are for ball-type bearings.

TYPE VM-4-A
With Type M-30 Register

These meters are intended for the circuit obtained from a bank of three power transformers connected in Y and with the neutral brought out.

These meters can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside these limits, the normal operating voltage should be specified.

Volts	Amp	Full-scale Kw	15-min. Interval Cat. No.	30-min. Interval Cat. No.	List Price, Each
120Y	15	2X9	489X74	489X82	**$110.80**
120Y	50	2X30	489X76	489X84	**126.80**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Volts	Amp	Full-scale Kw	15-min. Interval Cat. No.	30-min. Interval Cat. No.	List Price, Each
120Y	2.5	2X1.5	489X88	489X90	**$115.80**
*120Y	2.5	2X1.5	489X92	489X94	**115.80**

* No potential transformers.

Approximate shipping weight, 30 lb.

All instruments listed are in a 60-cycle rating. Catalog numbers are for ball-type bearings.

TYPE VM-6-S
With Type M-30 Register

These meters are intended for the circuit obtained from a bank of two or three power transformers connected in Δ with the center tap of one transformer brought out, provided the 120-volt voltages of the lighting circuit (between the center tap and the outer wires) are balanced within limits that would permit the use of a 3-wire, single-phase watthour meter on the lighting circuit.

The meters have two 240-volt potential coils and three current circuits, with the 3-wire current coil located on the left-hand element.

The meters can be used on circuits where the voltage may be 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside these limits, the normal operating voltage should be specified.

Volts	Amp	Full-scale Kw	15-min Interval Cat. No.	30-min Interval Cat. No.	List Price, Each
240	15	2X12	490X71	490X81	**$84.80**
240	50	2X40	490X75	490X85	**94.80**

TYPE VM-6-A
With Type M-30 Register

Volts	Amp	Full-scale Kw	15-min Interval Cat. No.	30-min Interval Cat. No.	List Price, Each
240	15	2X12	490X47	490X53	**$88.80**
240	50	2X40	490X57	490X61	**98.80**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

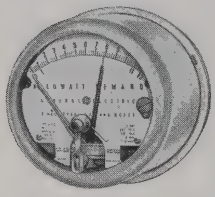
240	2.5	2 X 2	490X65	490X67	**$90.80**

Approximate shipping weight, 18 lb.

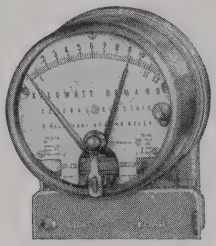
All instruments listed are in a 60-cycle rating. Catalog numbers are for ball-type bearings.

G-E TYPE HI-1 THERMAL WATT-DEMAND METERS

The Type HI-1 is a separate meter for the indicated measurements of maximum demand It is admirably suited to use on small loads because of the low maintenance and cost. Unless it is necessary to have recorded measurements, as in the graphic or printing types, it can be used for loads of any value.



Type H-1-S



Type H-1-A

TYPES HI-1-S AND HI-1-A

Amp	Full-scale Kw	Type HI-1-S Cat. No.	Type HI-1-A Cat. No.	List Price, Each
120 Volts, 2-wire				
15	6.0	411X59	411X43	**$38.00**
50	12.0	411X60	411X44	**41.15**
240 Volts, 3-wire, 4-terminal				
15	12.0	411X65	411X49	**$38.00**
50	24.0	411X66	411X50	**41.15**

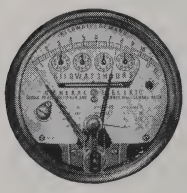
METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Circuit	Meter Rating	Full-scale Kw	Type HI-1-S Cat. No.	TypeHI-1-A Cat. No.	List Price, Each
2-wire	120v, 2.5a	1	416X92	416X87	**$38.00**
2-wire	240v, 2.5a	2	411X69	411X56	**38.00**
3-wire	240v, 2.5a	2	.....	411X58	**38.00**

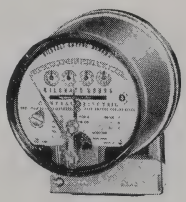
Approximate shipping weight, 13 lb.

G-E TYPE IHM-1 WATTHOUR THERMAL DEMAND METERS

The Type IHM-1 is a combination watthour meter and thermal watt demand meter for the measurement of energy and maximum demand. It is admirably suited to use on small loads because of the low maintenance and cost. Unless it is necessary to have recorded measurements, as in the graphic or printing types, it can be used for loads of any value.



Type IHM-1-S



Type IHM-1-A

TYPE IHM-1-S AND IHM-1-A

Amp	Full-scale Kw	Type IHM-1-S Cat. No.	Type IHM-1-A Cat. No.	List Price, Each
120 Volts, 2-wire				
15	6.0	419X37	419X16	**$50.95**
50	12.0	419X38	419X17	**58.30**
240 Volts, 3-wire, 4-terminal				
15	12.0	419X43	419X22	**$52.30**
50	24.0	378X97	378X96	**59.65**

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Circuit	Meter Rating	Full-scale Kw	Type I HI-1-S Cat. No.	Type I HI-1-A Cat. No.	List Price, Each
2-wire	120v, 2.5a	1.0	419X46	419X28	**$52.10**
2-wire	240v, 2.5a	2.0	419X49	419X31	**53.95**
3-wire	240v, 2.5a	2.0	.....	419X34	**53.95**

Approximate shipping weight, 18 lb.

G-E AUTOMATIC TIME SWITCHES AND TIMING DEVICES

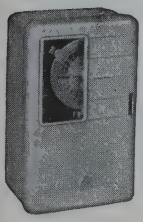
Telechron Motor-driven

G-E automatic time switches are operated by the well-known Telechron* synchronous motor, and do not require winding, regulating, or other attention.

While the types listed include a wide range of ratings and meet many requirements, switches of other ratings and types can be furnished.

The following table may be of assistance in selecting the proper type of switch for the desired operation.

For Uses Requiring	Use Type
Operation Related to Hour of Day (outdoor and indoor installation)	T-27
Repeating Operation Cycle, Not Related to Hour of Day (indoor installation)	TSA-14
Process Timing and Control, Readily Adjusted Switch (indoor installation)	TSA-10
Counting Units of Time (machine-operating time)	KT



TYPE T-47 GENERAL-PURPOSE TIMER

60 Cycles.....
115 and 230 Volts.....Ac.....
Contacts 35 Amp

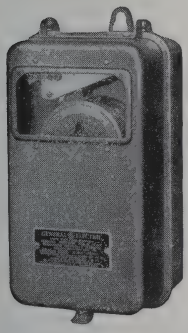
The Type T-47 general-purpose timer is the new G-E low-cost timer. The Handy Time Switch (T-47) will perform one "on" and one "off" operation during any 24-hour period. It has the standard Telechron motor and is housed in an attractive drawn-steel case.

Dimensions, $7\frac{15}{16}$ by 5 by $3\frac{31}{32}$ inches.

Motor Volts	Cat. No.	List Price, Each
115	414X94	**$13.15**
230	414X95	**14.25**

Approximate Weights: 3¼ lb net.

Also available especially designed for poultry-house lighting, is Type T-470, Cat. No. 374X8, rated 115 volts. List price each, $14.75.



TYPE T-27 GENERAL-PURPOSE TIMER

60 Cycles
115 and 230 Volts, A-c
Contacts 35 Amp

The Type T-27 time switch employs the well-known Telechron synchronous motor, and is equipped with removable and adjustable riders to provide for convenience of adjustment. Can be furnished with the skip-a-day omitting device at $3.50 extra.

Switches are equipped with Type B-8, 2-watt motor. Can be furnished equipped with 6-watt motors for operation in temperature ranges of –20 F to +110 F at no increase in price.

* Registered trade-mark of General Electric Company.

Dimensions, $10\frac{21}{32}$ by $5\frac{3}{8}$ by $4\frac{13}{16}$ inches.
Approximate shipping weight, 8 lb.

Motor Volts	Switch		Plain Dial Cat. No.	List Price, Each	Astronomic Dial Cat. No.	List Price, Each
	Pole	Throw				
115	1	1	83X948	**$30.50**	88X467	**$44.00**
230	1	1	83X949	**31.50**	88X468	**45.00**
115	1	2	83X950	**34.00**	88X469	**47.00**
230	1	2	83X951	**35.00**	88X470	**48.00**
115	2	1	83X952	**34.00**	88X471	**47.00**
230	2	1	83X953	**35.00**	88X472	**48.00**
115	2	2	88X443	**37.00**	88X473	**50.50**
230	2	2	88X444	**38.00**	88X474	**51.50**

All instruments listed are for 60-cycle service. Same prices for 50 cycles. For 25-cycle ratings, add $2.00 list.

TYPE TSA-14 FOR CONTROL OF REPEATING SCHEDULES

60 Cycles—Contact Rated 10 Amp, A-c

Type TSA-14 is designed to control repeating cycles of operation of electric circuits without respect to the time of day. The ON time may be varied between 1 to 50 per cent on blue circuit, 50 to 99 per cent on green circuit.

Die-cast base is equipped with a pipe nipple that is suitable for mounting in a knock-out of any convenient junction box or switch box.

Timing is obtained by a Telechron synchronous motor; therefore no winding or regulating is required.

Dimensions, 5-inch diameter by 3⅛-inch depth.

Approximate shipping weight, 4 lb.

Conduit Mounting Nipple	Volts	List Price, Each
Total Cycle: 10 or 15 Seconds		
Top	115	**$26.00**
Bottom	115	**26.00**
Top	230	**27.00**
Bottom	230	**27.00**
Total Cycle 30, or 40 seconds; 1 Minute		
Top	115	**$22.00**
Bottom	115	**22.00**
Top	230	**23.00**
Bottom	230	**23.00**

Conduit Mounting Nipple	Volts	List Price Each
Total Cycle: 3, 5, 7, 10, or 15 Minutes; or 20 Seconds		
Top	115	**$24.00**
Bottom	115	**24.00**
Top	230	**25.00**
Bottom	230	**25.00**
Total Cycle 30, 45, or 60 Minutes		
Top	115	**$22.00**
Bottom	115	**22.00**
Top	230	**23.00**
Bottom	230	**23.00**

When ordering, specify total (ON plus OFF) time cycle.

Add $2.00 list for 50 cycles. For 25-cycle ratings, add $4.00 list.

G-E AUTOMATIC TIME SWITCHES AND TIMING DEVICES

Continued

TYPE TSA-10 FOR PROCESS TIMING

60 Cycles

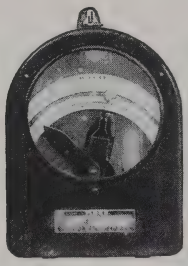
Type TSA-10 process timer is suitable for the control of electrically operated machines, devices, etc., and is readily adjusted over a wide range of operating cycles. Can be supplied with normally open or normally closed contacts. Resetting is automatic when the clutch coil is de-energized.

Because of its flexibility of adjustment and connection, and since its operations can be controlled electrically, this timer is adaptable to many control applications.

Relays for use with the Type TSA-10 timer, enabling completely automatic control, can also be furnished.

Dimensions, 9 by 6 by 4 inches.

Approximate shipping weight, 8 lb.



Volts	Clutch Coil Contacts	Time-set Knob	List Price, Each
Double-Time Scale — 10/30, 20/60, 30/90, 40/120, 100/300 Seconds; 1/3, 2/6, 5/15, 10/30, 15/45, 20/60, 40/120, 80/240 Minutes; 1/3 or 2/6 Hours			
115	With	Internal	**$58.00**
230	With	Internal	**59.00**
115	Without	Internal	**58.00**
230	Without	Internal	**59.00**
115	With	External	**61.00**
230	With	External	**62.00**
115	Without	External	**61.00**
230	Without	External	**62.00**
Single Time Scale—5, 10, 15, 20, 30, 40 Seconds; 1, 2, 3, 5, 6, 10, 15, 20, 30, 40 Minutes; 1, 2, 3, 4, or 6 Hours			
115	With	Internal	**$51.50**
230	With	Internal	**52.50**
115	Without	Internal	**51.50**
230	Without	Internal	**52.50**
115	With	External	**54.50**
230	With	External	**55.50**
115	Without	External	**54.50**
230	Without	External	**55.50**

When ordering, specify scale rating and normally open or normally closed main contacts.

Same prices for 50 cycles. For 25-cycle ratings, add $2.00 net.

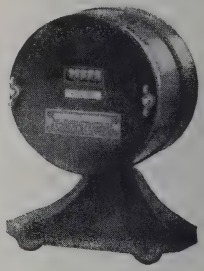
TYPE KT AUTOMATIC TIME METERS

60 Cycles

Round for flush mounting

Square for flush mounting

Conduit



Portable

Whenever knowledge of elapsed time is of value, the Type KT time meter is a profitable investment. Machine-operating time, often very difficult and expensive to measure, is easily and inexpensively measured with this device.

This time meter consists of a cyclometer, driven by a Telechron synchronous motor. Connected to an electric circuit, it will measure and indicate the number of hours, or minutes that the circuit is in use.

Approximate shipping weight, 6 lb.

Volts	Registers			List Price, Each
	Hours Cat. No.	1/10 Hours Cat. No.	Minutes Cat. No.	
Round				
Approximate dimensions, 3½ inches in diameter.				
11	94X917	94X921	94X925	**$19.50**
115	94X918	94X922	94X926	**18.50**
230	94X919	94X923	94X927	**19.50**
460	94X920	94X924	94X928	**22.00**
Square				
Approximate dimensions, 3 by 3⅛ inches.				
11	94X929	94X933	94X937	**$19.50**
115	94X930	94X934	94X938	**18.50**
230	94X931	94X935	94X939	**19.50**
460	94X932	94X936	94X940	**22.00**

G-E AUTOMATIC TIME SWITCHES AND TIMING DEVICES—Continued

TYPE KT AUTOMATIC TIME METERS (Cont.)

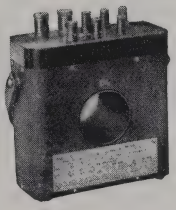
Volts	Registers: Hours Cat. No.	Registers: 1/10 Hours Cat. No.	Registers: Minutes Cat. No.	List Price, Each
Conduit				
Approximate dimensions: 4¼ inches in diameter; 3 inches deep.				
11	94X893	94X897	94X901	**$19.50**
115	94X894	94X898	94X902	**18.50**
230	94X895	94X899	94X903	**19.50**
460	94X896	94X900	94X904	**22.00**

Volts	Registers: Hours Cat. No.	Registers: 1/10 Hours Cat. No.	Registers: Minutes Cat. No.	List Price, Each
Portable				
Approximate dimensions: $6\frac{5}{16}$ inches high; 3 inches deep.				
11	94X905	94X909	94X913	**$28.50**
115	94X906	94X910	94X914	**27.50**
230	94X907	94X911	94X915	**28.50**
460	94X908	94X912	94X916	**30.50**

Same prices for 50 cycles. For 25-cycle ratings, add $2.00 list.

G-E PORTABLE TRANSFORMERS

For use with meters, instruments, and similar devices. Used in laboratory and general testing work.



Type JP-1

CURRENT TRANSFORMERS

2500 Volts—25-60 Cycles

Current transformers include a wide range of primary currents. For example, the Type P-3 is a multi-range transformer having either three or six primary ratings. Changes in ratio are made by changing the link connections on the top of the case. The JP-2 is of the through type and has much higher ratings. Type JP-1 is especially suited for industrial work. The accuracy of these transformers is sufficiently high to obviate the need for correction during most commercial tests. However, certificates of phase-angle and ratio characteristics can be furnished.

Cat. No.	List Price, Each	Primary Cap., Amp	Ratio
Type JP-7			
548X57	**$118.00**	5/10/20	1/2/4 :1
548X58	**118.00**	15/30/60	3/6/12 :1
548X59	**118.00**	25/50/100	5/10/20 :1
548X60	**118.00**	50/100/200	10/20/40 :1
548X61	**140.00**	7.5/10/15/20/30/40	1.5/2/3/4/6/8 :1
548X62	**140.00**	10/15/20/30/40/60	2/3/4/6/8/12 :1
548X63	**140.00**	15/20/30/40/60/80	3/4/6/8/12/16 :1
548X64	**140 00**	20/25/40/50/80/100	4/5/8/10/16/20 :1
548X65	**140 00**	30/37.5/60/75/120/150	6/7.5/12/15/24/30 :1
548X66	**140.00**	30/40/60/80/120/160	6/8/12/16/24/32 :1
548X67	**140.00**	37.5/50/75/100/150/200	7.5/10/15/20/30/40 :1
548X68	**140.00**	40/50/80/100/160/200	8/10/16/20/32/40 :1
Type JP-1			
88X593	**$67.00**	10/20/50/100/600/800	2/4/10/20/120/160 :1
89X866	**67.00**	10/25/50/100/600/1000	2/5/10/20/120/200 :1
Type JP-2			
89X867	**$130.00**	1200	240 :1
89X868	**175.00**	1200/1500/2000/2500	240/300/400/500 :1

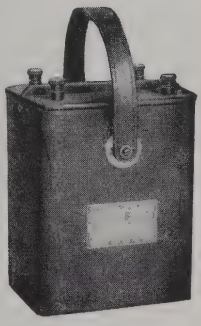
POTENTIAL TRANSFORMERS

Under ordinary conditions of load and power factor, the accuracy of these types will not vary more than 1 per cent from rated ratio.

When used with a test certificate, the ratio can be corrected to within one tenth of 1 per cent, and the phase angle can be corrected to within three minutes.

Type E-6 is rated 25 volt-amperes, and is compensated for 12.5 volt-amperes.

Type JE-9 is rated 200 volt-amperes, and is compensated for 50 volt-amperes.



Type E-6

Cat. No.	List Price, Each	Volt-Amp	Cycles	Voltage: Primary	Voltage: Secondary	Ratio
Type E-6						
48X482	**$90.00**	25	25	240/480	120	2/4:1
48X483	**85.00**	25	25	480	120	4:1
48X484	**90.00**	25	25	600	120	5:1
48X485	**95.00**	25	25	2400	120	20:1
48X486	**65.00**	25	50/60	240/480	120	2/4:1
48X487	**60.00**	25	50/60	480	120	4:1
48X488	**65.00**	25	50/60	600	120	5:1
48X489	**70.00**	25	50/60	2400	120	20:1

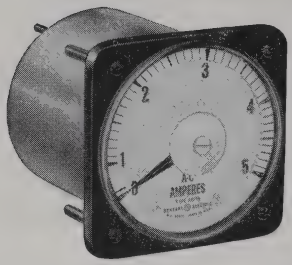
Type JE-9

Cat. No.	List Price, Each	Volt-Amp	Cycles	Voltage: Primary	Voltage: Secondary	Ratio
71X225	**$50.00**	200	60	240	120	2:1
71X227	**50.00**	200	60	480	120	4:1
71X228	**50.00**	200	60	600	120	5:1
71X229	**50.00**	200	60	2400	120	20:1

G-E SWITCHBOARD INSTRUMENTS

LONG-SCALE MODELS

Types AB-18 (a-c) and DB-18 (d-c)



Type AB-18 ammeter

These long-scale, compact instruments are intended for general switchboard service on both large and small equipments. They are excellent for control stations, test equipment, and other installations where space is limited. Five instruments can be mounted side-by-side on a 24-inch panel.

Concentric-scale instruments are particularly attractive because they provide long scales—giving easy and accurate readability—yet they occupy very little panel space. Readability is further improved by a new cover, designed for shadow elimination. The scale angle is 250 degrees for all except power-factor meters, which are calibrated over 180 or 360 degrees, and synchroscopes.

Cases are dustproof, of drawn steel with a molded front, and designed for semiflush mounting. Antiparallax scale and pointer, magnetic damping, and external zero adjusters are standard features. White scales with black markings are standard; black scales with white markings can be supplied on all listed ratings. Numbered major scale divisions are accented to save time in reading.

A-C VOLTMETERS

Type AB-18
Operating principle .....Moving-iron
Va burden at 120 v/60 cycles.....4.8
Accuracy 1%
Frequency range .....25-125 cycles

(Specify if other than 60 cycles.)

Scale length .....7.1 in.
Accuracy class 1%
Frontal dimensions .....4¼ in. by 4¼ in.
Projection behind panel.....Ammeters—$4\frac{15}{16}$ in.
Voltmeters—$6\frac{17}{32}$ in.
Mounting .....Semiflush

Voltmeters rated 300 volts require one 1-tube external resistor; those rated 600 and 750 volts require one 4-tube external resistor. For all other ratings, the resistance is housed in a ventilated molded cage on the back of the case.

Volts	Volts per Scale Div	Price, Each	Volts	Volts per Scale Div	Price, Each
*150	2.0	**$50.50**	600	10.0	**$62.50**
150	2.0	**50.50**	750	10.0	**62.50**
300	5.0	**54.50**			

* Transformer-rated.

Approx wt .....3 lb net, 6 lb ship.

A-C AMMETERS

Type AB-18
Operating principle .....Moving-iron
Va burden at 5 amp/60 cycles.....2.9
Accuracy 1%
Frequency range .....25-125 cycles

(Specify if other than 60 cycles)

These ammeters will withstand up to 100 times normal current instantaneously, and, in normal applications, motor-starting current has no adverse effects.

Amp	Amp per Scale Div	Price, Each	Amp	Amp per Scale Div	Price, Each
*5	0.1	**$47.00**	10	0.2	**$47.00**
2	0.05	**47.00**	15	0.2	**51.00**
5	0.1	**47.00**	20	0.5	**51.00**

* Transformer-rated.

Approx wt.....2½ lb net, 6 lb ship.

WATTMETERS

Wattmeters rated 120 volts or less have self-contained potential resistors. 240-volt wattmeters require one 1-tube external resistor; those rated 600 and 750 volts require one 2-tube external resistor. Zero-center scales can be furnished at standard prices. Only 120-volt instruments are listed below; 240-volt ratings can be supplied at $4.00 list addition.

Type AB-18
Operating principle .....Electrodynamometer
Va burden at 60 cycles: 5-amp current circuit.....1.7
120-volt potential circuit....2.2
Accuracy 1%
Frequency range.....25-125 cycles

(Specify if other than 60 cycles)

Service .....Single-phase, 2-wire

Amp	Volts	Kw	Price, Each	Amp	Volts	Kw	Price, Each
5	120	*	**$77.00**	10	120	1.0	**$77.00**
1	120	0.1	**77.00**	15	120	1.5	**80.00**
5	120	0.5	**77.00**	20	120	2.0	**80.00**

* Transformer-rated.

Approx wt.....3½ lb net, 7 lb ship.

In addition to the types and ratings listed above, there is also available a complete line, covering all standard and many special ratings, of frequency meters, power-factor meters, synchroscopes, var-meters, and polyphase wattmeters.

G-E SWITCHBOARD INSTRUMENTS

LONG-SCALE MODELS

Types AB-18 (a-c) and DB-18 (d-c)

DIRECT-CURRENT TYPES

Type .....DB-
Operating principle..Permanent-magnet, moving-coil
Accuracy 1%
Scale.....Zero-left is standard; zero-center available at standard prices.

D-C VOLTMETERS

Sensitivity .....1.5 to 250 volts.....100 ohms per volt
250 to 750 volts.....200 ohms per volt

Volts	Price, Each	Volts	Price, Each
30	**$52.00**	300	**$55.00**
75	**52.00**	600	**63.00**
150	**52.00**	750	**67.00**

Approx wt .....3¾ lb net, 7 lb ship.

D-C AMMETERS

Ammeters are normally self-contained in ratings up to and including 60 amperes. Higher ratings are supplied with external 50-mv shunts and 6-ft leads, which are included in the price of the instrument. Longer shunt leads are available at an additional price. If the one-way lead length exceeds 45 feet (or the two-way resistance exceeds 0.170 ohms), a 100-mv instrument and shunt are required.

Amp	Price, Each	Amp	Price, Each	Amp	Price, Each	Amp	Price, Each
1	**$56.50**	40	**$56.50**	200	**$56.50**	800	**$66.00**
5	**56.50**	50	**56.50**	300	**57.25**	1000	**71.00**
10	**56.50**	60	**56.50**	400	**59.00**	1500	**80.00**
15	**56.50**	80	**56.50**	500	**60.75**	2000	**84.00**
20	**56.50**	100	**56.50**	600	**62.50**	3000	**101.00**
		150	**56.50**				

Approx wt, less shunt.....3¾ lb net, 7 lb ship.

D-C AMMETERS WITH LEAD-LENGTH COMPENSATOR

For Use with External Shunts

For use where it is not practical to specify the length or resistance of the shunt lead when ordering, ammeters, less shunt and leads (millivoltmeters) are available with internal lead-length compensators. Compensation for lead resistance can be made after installation by means of a shaft extension with a screw-driver slot, accessible from the back of the instrument.

Shunts are not included, but should be ordered separately. Leads may be ordered separately or supplied by the user.

Rating, Mv	Range of Compensator Adjustment	Scale Marking	Price, Each
100	0–1.0 ohms	*	**$64.00**

* Scale marking should be specified.

Approx wt.....3½ lb net, 6 lb ship.

D-C MILLIAMMETERS

Ma	Approx Res, Ohms	Price, Each	Ma	Approx Res, Ohms	Price, Each
1	343	**$56.00**	100	0.5	**$51.00**
10	8	**51.00**	500	0.1	**51.00**

D-C MICROAMMETERS

Mu A	Approx Res, Ohms	Price, Each	Mu A	Approx Res, Ohms	Price, Each
200	3900	**$70.00**	500	1000	**$55.00**

Approx wt.....3¾ lb net, 7 lb ship.

G-E SWITCHBOARD INSTRUMENTS

6-INCH RECTANGULAR CLASS

Types AD (a-c) and DD (d-c)

Scale length .....5 in.
Accuracy class 1%
Mounting.....surface or semiflush
Size: surface .....5½ in. by 6 in.
semiflush .....6 in. by 6½ in.

This general-purpose line of instruments has long been used for instrumentation of power switchgear, control boards, test benches, and similar industrial apparatus. Available as a most complete line, including such specialized forms as heavy-duty types for steel mills and similar industries, alarm contacts, tachometer voltmeters, and high-frequency instruments for induction-heating applications, besides the more standard forms listed in this catalog.

With the exception of the heavy-duty types (not listed), all cases are of welded, pressed-steel construction with a durable black finish. Nonglare glass,

G-E SWITCHBOARD INSTRUMENTS

6-INCH RECTANGULAR CLASS

Types AD (a-c) and DD (d-c)

antiparallax scale and pointer, magnetic damping, and external zero adjusters are standard features. White scales with black markings are standard; black scales with white markings can be supplied. Thorough shielding is provided by the steel cases which are rendered dustproof by resilient rubber gaskets.

The bold, monument-shaped pointer and prominent scale markings facilitate reading from a distance.

The listings below are for the surface-mounted, Type AD-6. Unless otherwise noted, add $4.00 for semiflush type, AD-7.

A-C VOLTMETERS

Operating principle.....Moving-iron, inclined-coil
Burden at 120 volts.....5.3 va
Accuracy 1%
Frequency range .....25-125 cycles

Single-range voltmeters rated 300 volts or lower have self-contained resistance. Those rated 600 and 750 volts require one 2-tube external resistor. Dual-range voltmeters are self-contained for the low range; an external resistor is used for the high range.

Single-range

Volts	Volts per Scale Div	Price, Each	Volts	Volts per Scale Div	Price, Each
150	5.0	**$40.50**	600	20.0	**$52.50**
300	10.0	**44.50**	750	20.0	**56.50**

Dual-range

75/150	2/4	**$50.50**	150/300	5/10	**$54.50**

Approx wt.....5 lb net, 8 lb ship.

A-C TRIPLEX VOLTMETERS

Types AD-10 (surface) and AD-12 (semiflush)

All triplex voltmeters are supplied with external resistors. Prices given are for the AD-10, surface-mounted type. For AD-12, semiflush, add $10.00.

Volts	Volts per Scale Div	Price, Each	Volts	Volts per Scale Div	Price, Each
150	5	**$112.00**	300	10	**$124.00**

Approx wt.....9 lb net, 25 lb ship.

A-C AMMETERS

Types AD-6, AD-7

Burden at 5 amp.....1.9 va

Type AD-6 and AD-7 ammeters are outstanding for their high overload characteristics. For example, the 5-amp rating will withstand 100 times normal current instantaneously without mechanical or electrical damage. In normal applications, motor-starting current has no adverse effect.

All listed ratings are self-contained.

Single-range

Amp	Amp per Scale Div	Price, Each	Amp	Amp per Scale Div	Price, Each
5	0.1	**$37.00**	80	2.0	**$46.00**
10	0.2	**37.00**	100	2.0	**46.00**
15	0.5	**41.00**	150	5.0	**49.00**
20	0.5	**41.00**	200	5.0	**52.00**
30	1.0	**41.00**	300	10.0	**58.00**
40	1.0	**41.00**	400	10.0	**66.00**
60	2.0	**43.00**	600	20.0	**66.00**

Approx wt ..... 1 to 50 amp....5 lb net, 8 lb ship.
60 to 600 amp....6 lb net, 9 lb ship.

DUAL-RANGE AMMETERS

Dual-range ammeters are furnished with four studs to permit series-parallel connection of the current windings. Scales are double-marked. Transfer switches are not furnished, but are available as accessories.

Amp	Amp per Scale Div	Price, Each
2.5/5	0.5/0.1	**$47.00**
5/10	0.1/0.2	**47.00**

Approx wt.....5 lb net, 11 lb ship.

POINTER-STOP AMMETERS

Type .....AD-6 (surface)
AD-7 (semiflush)
Operating principle.....Moving-iron, inclined-coil
Burden at 5 amp.....1.9 va
Accuracy....5% for current impulses of 1/20 second or more
Marked scale range.....2/3 of full-scale value

For measuring currents of short duration, such as resistance-welder current, pointer-stop ammeters are available. An adjustable lower stop, moved by a small knob protruding from the cover front, may be used to advance the pointer upscale to the point of minimum observable "kick" in response to a current impulse, thus indicating the rms current.

Amp	Scale Marking	Price, Each
5	*	**$47.00**
2.5/5.0	*	**57.00**
5/10	*	**57.00**

* Scale marking depends on current-transformer rating. Lower third of scale is not marked, because readings there are meaningless.

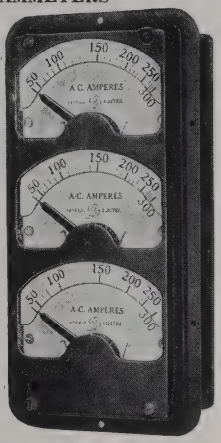
Approx wt.....5 lb net, 11 lb ship.

G-E SWITCHBOARD INSTRUMENTS

6-INCH RECTANGULAR CLASS

Types AD (a-c) and DD (d-c)

A-C TRIPLEX AMMETERS



Type .....AD-10 (surface)
AD-12 (semiflush)

Operating principle .....
Moving-iron, inclined-coil

Burden at 5 amp.....1.9 va

Accuracy 1%

Scale length .....4.1 in.

Amp	Price, Each	
	AD-10	AD-12
5	**$102.00**	**$112.00**

Approx wt .....
9 lb net, 25 lb ship.

WATTMETERS

Wattmeters are normally furnished with zero-left scale and self-contained potential resistance for 120-volt potential rating. Zero-center scales can be supplied at standard prices. In addition to the single-phase line listed below, complete lines of polyphase wattmeters are available.

SINGLE-PHASE WATTMETERS

The following listings are for potential rating of 120 volts. For 240 volts, add $4.00; for 480 or 600 volts, add $9.00.

Amp	Kw	Price, Each	Amp	Kw	Price, Each	Amp	Kw	Price, Each
1	0.1	**$67.00**	4	0.4	**$67.00**	10	1.0	**$67.00**
2	0.2	**67.00**	5	0.5	**67.00**	15	1.5	**70.00**
3	0.3	**67.00**	7.5	0.75	**67.00**	20	2.0	**70.00**

Approx wt.....7 lb net, 12 lb ship.

DIRECT-CURRENT TYPES

Types .....DD-6 (surface)
DD-7 (semiflush)

Operating principle....Permanent-magnet, moving-coil

Scale.....Zero-left is standard; zero-center can be furnished at standard prices.

D-C VOLTMETERS

All listed voltmeters have a sensitivity of approximately 100 ohms per volt, and are self-contained. Higher-sensitivity instruments are available.

Suppressed-zero voltmeters, such as 50-150 volts, or 100-150 volts, are available at $5.00 additional. However, such instruments are not recommended, since accuracy is not increased and the absence of a natural zero reference makes it difficult to maintain standard accuracy.

Volts	Price, Each	Volts	Price, Each
150	**$42.00**	600	**$53.00**
300	**45.00**	750	**57.00**

Approx wt.....5½ lb net, 12 lb ship.

D-C AMMETERS

Ammeters are normally self-contained in ratings of 60 amperes and lower. Higher ratings, up to 3000 amperes, have an external Form 15 50-mv shunt and 6-ft leads included in price. If the one-way lead length exceeds 45 feet, or the two-way resistance exceeds 0.170 ohms, a 100-mv instrument and shunt are required.

Amp	Price, Each	Amp	Price, Each	Amp	Price, Each
15	**$46.50**	150	**$46.50**	800	**$56.00**
30	**46.50**	200	**46.50**	1000	**61.00**
40	**46.50**	300	**47.25**	1500	**70.00**
60	**46.50**	400	**49.00**	2000	**74.00**
80	**46.50**	500	**50.75**	3000	**91.00**
100	**46.50**	600	**52.50**		

Approx wt.....less shunt, 5½ lb net, 12 lb ship.

G-E PANEL INSTRUMENTS

These general-purpose panel instruments are particularly suitable for use in radio equipment and industrial applications where medium accuracy and high quality are required and space is at a premium.

The direct-current, radio-frequency, and audio-frequency instruments operate on the permanent-magnet, moving-coil principle; the alternating-current instruments are of the moving-iron type.

All instruments are accurate to within 2 per cent of full scale, except in the audio-frequency types, where the accuracy is 5% of full scale.

Available in 2½-inch, 3½-inch, and 4-by-4¼-inch sizes, voltmeters, ammeters, milliammeters, and microammeters can be supplied in all required ranges.

Two styles are available in each of the 3½-inch and 2½-inch classes, all in Textolite. In addition to the round, flush-mounted model, there is a flush-mounted square style available at the same price.

The 4¼-inch rectangular type listed is a standard, flush model in Textolite. Also available are two illuminated types — one using rear illumination through a clear Lucite case, at $2.50 addition; the other being lighted by two 6-volt lamps mounted on the inside of the front cover. For the front-illuminated type, add $5.00 to listings below.

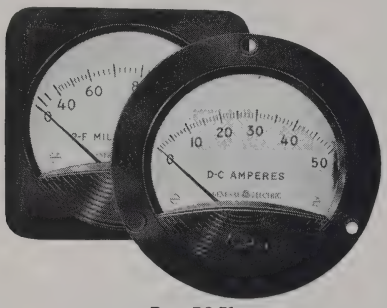
All instruments are unshielded, but external magnetic shields can be supplied.

G-E PANEL INSTRUMENTS

	2½-inch		3½-inch		4¼-inch	
	A-c	D-c	A-c	D-c	A-c	D-c
Depth behind panel—in. (less terminal studs*)	1.5	1.0	1.63	1.0	1.25	1.25
Radius of mounting holes—in. (round types)	1.22	1.22	1.58	1.58	.....	.....

* Standard terminal studs are 2½₂ in. long.

When ordering, specify rating, size, mounting, and, in 4¼-inch models, whether standard or illuminated.



Type DO-71

DIRECT-CURRENT TYPES

Type DW-71—2½-inch

Type DO-71—3½-inch

Type DO-78—4¼-inch

Permanent-magnet, moving-coil type, with an accuracy of 2 per cent full scale. Voltmeters are self-contained up to 500 volts, ammeters up to 50 amperes for DO-71 and DO-78 types; 300 volts and 30 amperes for DW-71.

External resistors and shunts are available for higher ratings.

	DW-71	DO-71	DO-78
Scale length, in.	1.6	2.46	3.5
Approx wt, lb	.4	.75	1

Voltmeters

Volts	DW-71	DO-71	DO-78
Approx Resistance—1000 Ohms per Volt			
1	$11.75	$12.25	$17.25
2	11.75	12.25	17.25
5	11.75	12.25	17.25
10	11.75	12.25	17.25
15	11.75	12.25	17.25
30	11.75	12.25	17.25
50	11.75	12.25	17.25
80	11.75	12.25	17.25
150	11.75	13.25	17.25
300	14.50	15.00	20.00
500	.....	17.25	20.00

Ammeters

Amp	Approx Res, Ohms	DW-71 Price, Each	DO-71 Price, Each	DO-78 Price, Each
1	.050	11.50	12.00	17.00
2	.025	11.50	12.00	17.00
5	.010	11.50	12.00	17.00
10	.0050	11.50	12.00	17.00
15	.0033	11.50	12.00	17.00
20	.0025	11.50	12.00	17.00
30	.00167	11.50	12.00	17.00
50	.0010	11.50	12.00	17.00
50mv	*	10.50	11.00	16.00

* Ammeters are self-contained for ratings up to and including 50 amperes (DW-71—30 amperes). Higher ratings are supplied with shunts having a 50-mv drop. Shunt leads are normally supplied in 3-ft lengths. Longer leads can be supplied.

Milliammeters

Ma	DW-71 Approx Res, Ohms	DW-71 Price, Each	DO-71 Approx Res, Ohms	DO-71 Price, Each	DO-78 Approx Res, Ohms	DO-78 Price, Each
1	25	$10.50	25	$11.00	70	$16.00
3	16.8	10.50	17	11.00	12	16.00
5	7.4	10.50	6	11.00	7	16.00
10	2.1	10.50	3.2	11.00	4	16.00
15	3.75	10.50	3.7	11.00	7	16.00
30	1.77	10.50	1.75	11.00	3.3	16.00
50	1.0	10.50	1	11.00	2.0	16.00
100	.5	10.50	.5	11.00	1.0	16.00
200	.252	10.50	.25	11.00	.50	16.00
300	.167	10.50	.17	11.00	.33	16.00
500	.1	10.50	.10	11.00	.20	16.00

Microammeters

Ma	DW-71 Approx Res, Ohms	DW-71 Price, Each	DO-71 Approx Res, Ohms	DO-71 Price, Each	DO-78 Approx Res, Ohms	DO-78 Price, Each
20	*	*	2030	$20.50	*	*
50	*	$19.00	1080	19.50	2000	$24.50
100	693	18.00	680	18.50	1600	23.50
200	302	14.00	435	14.50	360	19.50
500	68.5	12.50	185	13.00	250	18.00

*Not available.

RADIO-FREQUENCY TYPES
(A-c Thermocouple)

Type DW-72 ..... 2½ inch
Type DO-72 ..... 3½ inch
Type DO-79 ..... 4¼ inch

Permanent-magnet moving-coil with thermocouple. At frequencies up to 5 megacycles, the accuracy will be within 2 per cent of full scale. For applications on higher frequencies, orders should specify frequency and whether or not close accuracy is required.

Ratings listed below are self-contained. For higher ratings, or where conditions require, external thermocouples are available.

Standard thermocouple instruments have a square-law scale distribution. Instruments with linear expanded-scale construction are available in ratings 300 milliamperes and above. Add $5.00 for this feature.

	DW-72	DO-72	DO-79
Scale length—in.	1.6	2.46	3.5
Approx wt—lb	0.4	.75	1.0

G-E PANEL INSTRUMENTS

RADIO-FREQUENCY TYPES (Continued)

R-f Ammeters

Amp	Approx Res, Ohms	DW-72 Price, Each	DO-72 Price, Each	DO-79 Price, Each
1	0.29	$16.50	$17.00	$22.00
2	.11	16.50	17.00	22.00
3	.065	16.50	17.00	22.00
5	.045	16.50	17.00	22.00
8	.024	16.50	17.00	22.00
10	.017	16.50	17.00	22.00
15	.013	16.50	17.00	22.00
20	.012	16.50	17.00	22.00

R-f Milliammeters

Ma				
100	6.8	$15.50	$16.00	*
150	6.1	15.50	16.00	.....
300	1.4	15.50	16.00	.....
500	.62	15.50	16.00	$21.00

AUDIO-FREQUENCY (RECTIFIER) TYPES

Type DW-73 ..... **2½ inch**
Type DO-73 ..... **3½ inch**
Type DO-80 ..... **4¼ inch**

Rectifier-type instruments are for use where circuit conditions require low current drain in measurements of alternating currents and voltages. Accuracies are within 5 per cent of full-scale value when operated on sine-wave circuits and calibrated for frequency range involved Standard instruments are calibrated for use up to 1000 cycles and may be used on higher frequency with errors of approximately ½ per cent per 1000 cycles.

If for use on other than nonmagnetic panels, specify panel thickness when ordering.

	DW-73	DO-73	DO-80
Scale length, in.	1.6	2.46	3.5
Approx wt, lb.	.4	.75	1.0

Rectifier Voltmeters

Approx resistance—1 to 5 volts—2000 ohms per volt
10 to 300 volts—1000 ohms per volt

Volts	DW-73 Price, Each	DO-73 Price, Each	DO-80 Price, Each
5	$19.00	$19.50	$24.50
10	17.00	17.50	22.50
50	17.00	17.50	22.50
100	17.50	18.00	23.00
150	18.00	18.50	23.50
300	19.50	20.00	*

*Transformer-rated. In ordering, specify transformer ratio in terms of primary and secondary current.

Rectifier Milliammeters

Ma	DW-73		DO-73		DO-80	
	Approx Res, Ohms	Price, Each	Approx Res, Ohms	Price, Each	Approx Res, Ohms	Price, Each
1	700	$15.50	700	$16.00	600	$21.00
2	400	15.50	400	16.00	500	21.00
5	200	15.50	200	16.00	300	21.00
10	125	15.50	130	16.00	200	21.00

Rectifier Microammeters

Mu a	Approx Res, Ohms	DW-73 Price, Each	DO-73 Price, Each	DO-80 Price, Each
100	5000	.....	$19.50	$24.50
200	3000	$19.00	19.50	24.50
500	1200	18.00	18.50	23.50

ALTERNATING-CURRENT TYPES

Type AW-72 ..... **2½-inch**
Type AO-72 ..... **3½-inch**
Type AO-58 ..... **4¼-inch**

Magnetic-vane type for use on 25 to 125 cycles. Voltmeters normally self-contained up to and including 500 volts, ammeters up to and including 100 amperes for AO-72 and AO-58 types; 300 volts and 30 amperes for AW-72.

Accurate to within 2 per cent of full scale.

	AW-72	AO-72	AO-58
Scale length, in.	1.6	2.2	3
Approx wt, lb.	0.30	0.4	0.6

A-c Voltmeters

Volts	Approx Res, Ohms	AW-72 Price, Each	AO-72 Price, Each	AO-58 Price, Each
1.5	4.7	$11.50	$12.00	$17.00
3	17.9	11.50	12.00	17.00
5	53.3	11.50	12.00	17.00
10	156	11.50	12.00	17.00
15	235	11.50	12.00	17.00
50	2665	11.50	12.00	17.00
*150	15000	12.50	13.00	18.00
150	15000	12.50	13.00	18.00
300	50000	13.50	14.00	19.00
500	100,000	.....	17.00	22.00

*Transformer-rated. In ordering, specify transformer rating in terms of primary and secondary volts.

A-c Ammeters and Milliammeters

Amp	Approx Res, Ohms	AW-72 Price, Each	AO-72 Price, Each	AO-58 Price, Each
A-c Ammeters				
1	0.138	$11.50	$12.00	$17.00
3	.0128	11.50	12.00	17.00
*5	.0057	11.50	12.00	17.00
5	.0057	11.50	12.00	17.00
8	.0032	11.50	12.00	17.00
10	.0025	11.50	12.00	17.00
15	.0009	11.50	12.00	17.00
20	.0009	11.50	12.00	17.00
30	.0003	11.50	12.00	17.00
50	.....	.....	12.00	17.00
80	.....	.....	17.50	22.50
100	.....	.....	19.50	24.50
Ma				
A-c Milliammeters				
10	1060	$10.50	$11.00	$16.00
25	165	10.50	11.00	16.00
50	33	10.50	11.00	16.00
100	8.5	10.50	11.00	16.00
200	2.1	10.50	11.00	16.00
500	.43	10.50	11.00	16.00

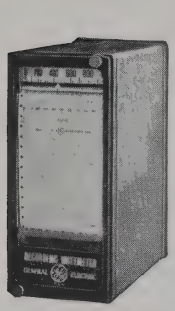
*Transformer-rated. In ordering, specify transformer ratio in terms o fprimary and secondary current.

G-E STRIP-CHART RECORDING INSTRUMENTS

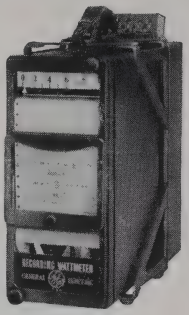
SWITCHBOARD AND PORTABLE TYPES

TYPE CD

60 Cycles—For A-c and D-c



Switchboard, back-connected



Portable

Type CD recording instruments are available for switchboards, surface or semiflush mounting, or in portable form. There is a complete line for a-c or d-c circuits, including ammeters, voltmeters, wattmeters, frequency meters, and power-factor meters. Standard chart speeds are 3 inches per hour for switchboard instruments. Portable instruments have a gear shift that permits chart speeds of either 3 inches per hour or 3 inches per minute. The driving mechanism may be either an eight-day, spring-operated clock, or a Telechron motor, as specified.

Type CD recording instruments are available with provision for inkless recording at a slight increase in price.

This listing covers only the portable instruments with Telechron motor drive. Switchboard instruments have somewhat lower prices; dimensions: instrument, 12 by 5½ by 10 inches, and chart, 4⅜ inches wide by 60 feet long. Instruments with spring-driven, hand- or motor-wound timing mechanisms have somewhat higher prices.

TYPE CD-13—FOR A-C

Potential resistances self-contained.

Instrument is calibrated for 25 to 60 cycles, **a-c.**

Voltmeters will read correctly on d-c circuits, but ammeters will read approximately 3 per cent high if used on d-c circuits.

Approximate shipping weight, 60 lb.

Voltmeters

Double-voltage Rated, Volts	Price, Each	Double-voltage Rated, Volts	Price, Each
150/300	**$273.00**	300/750	**$283.00**

Ammeters

Amp	Price, Each	Amp	Price, Each
1	**$233.00**	20	**$238.00**
2	**233.00**	2.5/5	**248.00**
5	**233.00**	5/10	**248.00**
10	**238.00**	10/20	**248.00**
15	**238.00**	.....	.....

TYPE CD-11—FOR D-C

Potential resistances self-contained.

Millivoltmeters are used as ammeters with any standard switchboard or portable shunt of 50-millivolt drop. Form 18 shunts are recommended. One set of shunt leads, 5 feet long, is furnished with each millivoltmeter.

Approximate shipping weight, 65 lb.

Voltmeters

Double-voltage Rated, Volts	Price, Each	Double-voltage Rated, Volts	Price, Each
150/300	**$310.00**	300/750	**$315.00**

Millivoltmeter Used as Ammeter

Mv	Price, Each
50	**$290.00**

Extra-length shunt leads: 10-foot, $12.00 per set; 15-foot, $18.00 per set; and 20-foot, $22.00 per set.

Form 18 Shunts

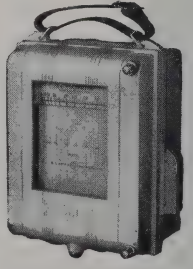
Amp	Price Each,	Amp	Price, Each	Amp	Price, Each
60	**$7.00**	150	**$7.00**	400	**$10.00**
75	**7.00**	200	**7.00**	500	**11.75**
80	**7.00**	250	**7.00**	600	**11.75**
100	**7.00**	300	**8.25**	800	**15.00**

INKLESS PORTABLE, TYPE CF

For A-c and D-c

Type CF inkless recording instruments are designed to provide recording voltmeters, ammeters, milliammeters, microammeters, wattmeters, and tachometers for applications where reliability and maximum convenience to the user are important.

Recommended for either indoor or outdoor service, the instrument shown is portable but may be wall- or pole-mounted. Switchboard models are also available.



The inkless recording feature (with no ink to dry up, freeze, or spill) and a chart speed of one inch per hour make these instruments capable of continuous operation for 30 days without attention. Hence, they are ideal for installations where frequent servicing is impractical.

G-E STRIP-CHART RECORDING INSTRUMENTS

INKLESS PORTABLE, TYPE CF
Continued

Size.....9¾ by 8½ by 6 in.
Weight.....12 lb
Chart size.....4 in. wide; 65 ft long
Chart speed.....3 in. per hour standard; 1 in. and 2 in. per hour available 1 in. per day can be supplied at $7.00 additional

A-C VOLTMETERS, TYPE CF-1

60 cycles—Accuracy—1½ per cent within normal range

Volts	Price, Each
0–140/280	**$110.00**

Telechron motor circuits internally connected to element terminals. Instruments can be supplied with separate motor terminals, $5.00 extra.

A-C AMMETERS

25-125 cycles—Accuracy—2 per cent of full scale

Amp	Price, Each
0–5/10	**$110.00**

Ammeter has 115/230-volt or 230/460-volt Telechron motor circuit. Connections to separate terminals on terminal block. Motor ratings changed by link arrangement on terminal block.

TYPE CF-2 FOR D-C

Previously offered only for a-c applications, the G-E Type CF line has been extended to include d-c instruments in the usual ratings of voltmeters, ammeters, milliammeters, and microammeters. This means that it is now economical to apply recording instruments to many applications where previously the expense of suitable equipment could not be justified.

All d-c instruments listed are accurate to within 2 per cent of full-scale value.

D-C VOLTMETERS, TYPE CF-2

Resistance—Approx 233 ohms per volt

Volts	Price, Each	Volts	Price, Each
0–15	**$160.00**	0–300	**$170.00**
0–150	**165.00**	0–750	**180.00**

D-C AMMETERS, TYPE CF-2

Amp	Approx Res, Ohms	Price, Each	Amp	Approx Res, Ohms	Price, Each
0–1.5	0.03	**$160.00**	0–15	0.003	**$160.00**
0–3	.017	**160.00**	0–30	.0017	**160.00**
0–7.5	.007	**160.00**			

Type CF-2 instruments are insulated for and designed for use in circuits not exceeding 750 volts to ground.

Listed instruments have 60-cycle, 115/230-volt motor circuit brought out to separate terminals. 25- or 50-cycle motors or 230/460-volt motor circuit may be specified at no addition to price.

SWITCHBOARD MODELS

Type CF recorders are now available in attractively styled cases for switchboard mounting, Type CF-4 for a-c, CF-5 for d-c.

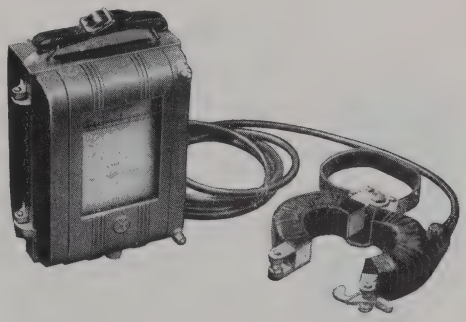
ACCESSORIES FOR TYPE CF INSTRUMENTS

Ribbon on spool	**$1.00**
Empty spool	**.30**
Rate-gear unit, 1, 2, or 3 in. per hr	**3.00**
Rate-gear unit, 1 in. per day	**10.00**
Record rolls (in minimum-quantity lots)	**1.00**
Lamps	**.15**

G-E CURRENT-MEASURING SET

For Measuring Amperes only with Recording Ammeter—for A-c

This current-measuring set is very convenient for measuring the current in the leads to motors and transformers and in feeder circuits, because it permits the measurement to be made without interrupting service.



Set includes a Type CF-1 recording ammeter, test leads, and a Type G-4 split-core current transformer.

When in use, the transformer is clamped around the cable or lead in which the current is to be measured.

Length of leads.....10 ft (add $4 for 50-ft leads)

Approx wt.....22 lb

Full-scale Amp	Frequency, Cycles	Price, Each	Full-scale Amp	Frequency, Cycles	Price, Each
50/200	60	**$186.00**	250/1000	60	**$200.00**
100/200	60	**186.00**	500/1000	60	**200.00**
125/500	60	**191.00**	100/200	50	**186.00**
250/500	60	**191.00**	250/500	50	**191.00**
150/600	60	**191.00**	300/600	50	**191.00**
300/600	60	**191.00**	500/1000	50	**200.00**

G-E PORTABLE INSTRUMENTS

FOR A-C MEASUREMENT

Type AP-9 Portable Indicating Instruments

These instruments are designed for general utility testing and are constructed to withstand rough usage. Ideal for motor testing, maintenance work, and trouble investigation, their high accuracy makes them suitable for measurement work in school and industrial laboratories. The dustproof case is of dark-red Textolite, with top of simulated leather and a leather handle. Large window opening, knife-edge pointer, and mirror scale are all standard features.

Over-all size ....2 7/16 by 6 9/16 by 4 13/16 in.
Weight .....2½ lb
Scale length ....4.1 in.
Accuracy .....¾ of 1 per cent
Operating principle ....Ammeters and voltmeters: Thomson inclined-coil; wattmeters and voltwattmeters: electrodynamometer
Damping .....Magnetic
Shielding .....Excellent shielding from stray fields

A-C VOLTMETERS

25-125 Cycles

Volts	Scale Div	Price, Each	Volts	Scale Div	Price, Each
150	150	**$44.75**	15/30	150	**$50.50**
250	50	**45.75**	30/60	60	**50.50**
300	60	**46.50**	75/150	150	**51.00**
600	60	**53.00**	150/300	150	**53.00**
5/10	100	**50.50**	150/300/600	150	**70.00**
10/20	100	**50.50**	150/300/750	150	**72.00**

A-C AMMETERS

Burden—5 amp. rating .....85 va
5/10 amp. rating.....1.1/1.4 va
1/2/5/10-amp. rating...75/1.6/2.4/3.3 va

Amp	Scale Div	Price, Each	Amp	Scale Div	Price, Each
1	100	**$43.00**	50	100	**$47.75**
2	100	**43.00**	1/2	100	**55.25**
3	60	**43.00**	2.5/5	50	**55.25**
5	100	**43.00**	5/10	100	**55.25**
10	100	**43.00**	10/20	100	**60.25**
15	150	**47.75**	1/2/5/10	100	**99.00**
25	50	**47.75**	*3/7.5/15/30	150	**104.00**
30	60	**47.75**	*5/10/20/30	100	**104.00**

* Four-range ammeters have internal transformers and can be used only on alternating-current circuits.

A-C MILLIAMMETERS

25-125 Cycles

Ma	Scale Div	Approx Res, Ohms	Price, Each
30	60	528	**$43.00**
75	75	150	**43.00**
100	100	70	**43.00**
200	100	18	**43.00**
300	60	9.5	**43.00**
500	100	2.8	**43.00**
750	75	1.5	**43.00**

SINGLE-PHASE WATTMETERS

Volts		Amp (Normal)	Scale Capacity, Watts	Scale Div	Potential Circuit Res, Ohms (approx)	Price, Each
Normal	Maximum					
Single-current—Double-voltage						
120/240	150/300	1	150/300	150	18500/37000	**$85.00**
	150/300	2	300/600	60	18500/37000	**85.00**
	150/300	5	750/1500	75	18500/37000	**85.00**
	150/300	10	1500/3000	150	18500/37000	**91.00**
	150/300	20	3000/6000	60	18500/37000	**91.00**
	150/300	50	7.5/15 kw	75	18500/37000	**91.00**
Double-current—Double-voltage						
60/120	75/150	1/2	75/150/300	150	9250/18500	**98.50**
	75/150	5/10	375/750/1500	75	9250/18500	**98.50**
	75/150	10/20	750/1500/3000	150	9250/18500	**100.25**
120/240	150/300	1/2	150/300/600	150	18500/37000	**100.25**
	150/300	5/10	750/1500/3000	150	18500/37000	**100.25**
	150/300	10/20	1500/3000/6000	150	18500/37000	**100.25**

FOR D-C MEASUREMENT

Type DP-9 Portable Indicating Instruments

Giving high accuracy and dependability, these instruments are for general utility testing, and find wide application in general plant testing, electrolysis measurements, equipment maintenance, battery testing, and electronic measurement.

Sturdy, dustproof case is of black Textolite, with hinged cover and leather handle.

Large clearance between moving parts affords maximum readability, long service, and sustained accuracy. Knife-edge pointer and mirror scale are standard features.

Size .....2 7/16 by 6 9/16 by 4 13/16 in.
Weight .....approx 2 lb
Accuracy .....½ of 1 per cent
Scale length ....4.1 in.
Operating principle .....Permanent-magnet, moving-coil
Damping .....Magnetic
Shielding .....Shielded for stray magnetic fields

G-E PORTABLE INSTRUMENTS

FOR D-C MEASUREMENT

Type DP-9 Portable Indicating Instruments

Continued

D-C VOLTMETERS

Volts	Scale Div	Price, Each	
		200 Ohms per Volt	1000 Ohms per Volt
3	150	**$48.50**	**$53.50**
50	100	**48.50**	**53.50**
150	150	**49.25**	**54.25**
300	150	**50.50**	**56.50**
600	120	**59.50**	**65.00**
750	150	**63.00**	**70.00**
150/300	150	**59.50**	**65.00**
3/7.5/30	150	**62.50**	**68.00**
7.5/30/75	150	**62.50**	**68.00**
3/15/150	150	**62.50**	**68.00**
3/150/300	150	**63.00**	**70.00**
7.5/300/750	150	**68.50**	**76.00**
150/300/750	150	**68.50**	**76.00**

D-C AMMETERS

Ammeters are self-contained up to and including 50 amperes. Higher ratings are available for use with external shunts and leads.

Amp	Scale Div	Price, Each	Amp	Scale Div	Price, Each
1	100	**$54.00**	0.05/0.5/5	100	**$54.00**
1.5	150	**54.00**	0.1/1/10	100	**67.00**
3	150	**54.00**	1/5/10	100	**67.00**
5	100	**54.00**	0.15/3/15	150	**67.00**
7.5	150	**54.00**	3/15/30	150	**67.00**
15	150	**54.00**	0.5/5/50	100	**67.00**
30	150	**54.00**	2/10/50	100	**67.00**
50	100	**54.00**	5/20/50	100	**67.00**

D-C MILLIVOLTMETERS

For use with external shunts

Mv	Scale Div	Price, Each	Mv	Scale Div	Price, Each
50	†	**$54.00**	100	†	**$54.00**
*50	100/150	**58.75**	*100	100/150	**58.75**

*Universal scale marking with double scale. Recommended when instrument is for use with shunts of various current ratings.

†Scale marking depends on capacity of shunt. Specify scale desired.

D-C MILLIVOLTMETERS

High resistance—1000 ohms per volt

Mv	Scale Div	Price, Each	Mv	Scale Div	Price, Each
10/20/50/100	100	**$86.25**	20/50/100/500	100	**86.25**

Zero-center scales available at no addition in price.

D-C MILLIAMMETERS

Ma	Scale Div	Approx Res, Ohms	Price, Each
1	100	64	**$50.00**
7.5	150	6	**50.00**
15	150	5	**50.00**
150	150	0.82	**50.00**
300	150	0.40	**50.00**
750	150	0.16	**50.00**

In addition to the above, a complete line of triple-range milliammeters is available.

D-C MICROAMMETERS

These instruments depend upon external circuits for damping. External-shunt resistance in values up to twice the critical resistance can be used satisfactorily.

Mu a	Scale Div	Approx Res Ohms	External Res, for Critical Damping, Ohms	Price, Each
15	150	3300	17000	**$92.00**
30	150	1000	4500	**70.75**
100	100	75	400	**64.40**
200	100	20	130	**58.00**
300		10	50	**58.00**
500		5	30	**58.00**

POCKET-SIZE, A-C

Type AS-5 Portable Indicating Instruments

Because of their small size, light weight, sturdiness, and accuracy, AS-5 instruments are well suited to maintenance work, trouble investigation, and general field measurements.

Dustproof Textolite cover, large window opening, knife-edge pointer, and mirror scale are all standard features.

Multirange instruments are provided with a selector switch for changing ranges without disturbing external circuit.

Size, $1^{31}/_{32}$ by $3^{7}/_{16}$ by $5^{15}/_{32}$ in.
Weight, $1^{1}/_{4}$ lb
Scale length, 2.7 in.
Accuracy, 1 per cent
Operating principle, Mu-metal vane
Damping, Magnetic
Shielding, Element is shielded

A-C AMMETERS

25-125 Cycles

Amp	Scale Div	Approx Res, Ohms	Price, Each
5	50	0.0066	**$31.25**
1/2	50/40	0.154/.072	**40.25**
5/10	50	0.0072/.0036	**40.25**
10/20	50/40	0.0042/.0021	**43.75**

G-E PORTABLE INSTRUMENTS

Type AS-5 Portable Indicating Instruments (Cont.)

A-C VOLTMETERS

25-125 Cycles

Volts	Scale Div	Approx Res, Ohms	Price, Each
150	75	100	**$32.50**
150/300	75	133	**38.50**
15/30/150	75	33	**45.00**
150/300/600	75	167	**51.00**

A-C HIGH-ACCURACY PORTABLES

Type P-3

High-accuracy instruments for use in power plants and substations in testing switchboard installations. Ideal for laboratory testing and research work.

Housed in walnut case with cover, leather handle, and nickel-plated fittings. Permanency of high accuracy is assured by the strong moving-element construction, one-piece aluminum pointer, metal element frame, and temperature compensation. An arc-shaped mirror set in the scale obviates parallax errors. Voltmeters and wattmeters are provided with a potential switch so that the potential circuit may be switched off the line except when readings are being taken. Also available are complete lines of polyphase wattmeters, frequency meters, and power-factor meters.

Accuracy .....⅛ of 1 per cent of full scale
Scale length ....6½ in. Frequency ....25-125 cycles
Operating principle .....Ammeters—inclined-coil
Voltmeters and wattmeters—electrodynamometer
Dimensions ....5⅜ by 8⅝ by 8¼ in. Weight 11½ lb

A-C VOLTMETERS

25-125 Cycles

Volts	Price, Each	Volts	Price, Each
15/30	**$180.00**	300/600	**$193.00**
40/80	**182.00**	75/150/300	**198.50**
75/150	**182.00**	150/300/600	**206.00**
150/300	**185.00**	150/300/750	**209.50**
150/600	**193.00**		

A-C AMMETERS

25-125 Cycles

Amp	Price, Each	Amp	Price, Each
1/2	**$193.00**	5/15	**$195.50**
2.5/5	**189.00**	10/20	**195.50**
5/10	**189.00**		

D-C HIGH-ACCURACY PORTABLES

Type DP-2

For testing portable and switchboard instruments in power plants and substations. High accuracy suits them for college- and commercial-laboratory testing and research work.

Housed in walnut case with leather handle and hinged cover. Precision-calibrated scale, arc-shaped mirror in scale, and knife-edge pointer are standard features.

Available as voltmeters, ammeters, thermocouple voltmeters, and ammeters, and rectifier voltmeters for measuring a-c current or voltage where the use of the conventional a-c instrument is impractical.

Accuracy .....⅛ of 1 per cent of full scale
Scale length ....5 in.
Operating principle .....Permanent-magnet, moving-coil
Dimensions ....8 by 8 by 4½ in.
Weight .....11 lb

D-C VOLTMETERS

Volts	Price, Each		Volts	Price, Each	
	100 Ohms per Volt	1000 Ohms per Volt		100 Ohms per Volt	1000 Ohms per Volt
150	**$116.50**	**$145.25**	150/300	**$134.00**	**$174.00**
15/150	**116.50**	**156.25**			

D-C AMMETERS

Amp	Price, Each	Amp	Price, Each
1	**$126.50**	15	**$126.50**
5	**126.50**	20	**126.50**
10	**126.50**	30	**126.50**

Ammeters are self-contained up to and including 50 amperes. For higher ratings, use a 50-mv millivoltmeter and one or more Form 18 precision shunts.

MILLIVOLTMETERS FOR USE WITH EXTERNAL SHUNTS

(Precision portable 50-mv Form 18 shunts are standard)

	Price, Each
For use with 50-mv shunts	**$116.50**
For use with 200-mv shunts	**116.50**
For use with 50- or 200-mv shunts	**133.00**

Note: Order must specify scale marking and legend required.

D-C MILLIAMMETERS

Ma	Approx Res, Ohms	Price, Each
5	48	**121.00**

D-C MICROAMMETERS

Mu a	Approx Res, Ohms	Price, Each	Mu a	Approx Res, Ohms	Price, Each
150	1100	**$137.50**	500	319	**$137.50**
300	915	**137.50**	750	250	**137.50**

G-E HOOK-ON VOLT-AMMETERS

TYPE AK-1—FOR A-C

This hook-on volt-ammeter is a versatile portable instrument for measuring alternating current and voltage quickly and accurately. It is safe, simple, and easy to use for making measurements on the job. A-c can be read instantaneously on both insulated and noninsulated conductors by simply hooking the instrument around the line; no necessity for separate transformers or additional equipment of any kind.

The instrument also measures a-c voltages. Two voltage ranges (0-150/600 volts) are available without the use of auxiliary equipment. It is only necessary to connect leads to the two convenient terminals on the instrument, then click the selector switch to the desired voltage position on the scale. Voltage leads, 6 feet long, are included with each instrument. Approximate dimensions, 13¼ by 3¾ by 2½ inches. Approximate weight: net, 3½ pounds; shipping, 7½ pounds.

Cat. No.	Description	Price, Each
99X33	Type AK-1 hook-on volt-ammeter 0–15/60/150/600 amp, 0–150/600 volts	**$74.75**
99X38	Leather case	**10.00**
99X67	Hot-line extension pole, 4 ft long	**8.50**
99X68	Hot-line extension pole, 6 ft long	**10.00**

HOOK-ON WATTMETER, TYPE AK-2

This new hook-on wattmeter provides a convenient method of measuring power on single-phase and polyphase a-c circuits. Many power-generation and industrial measurement problems will be easily solved with this handy portable instrument. The AK-2 will help make quick accurate checks on active and reactive power for survey and trouble-shooting applications.

The instrument is assembled in a sturdy Textolite* case, molded in one unit for maximum strength and safety. The over-all appearance, including the hook arrangement, is similar to that of the popular G-E Type AK-1 hook-on volt-ammeter. Strong six-foot voltage leads are mounted permanently through the handle of the instrument. They are provided with sheathed alligator clips for connection to noninsulated points on the conductors. Range selections can be made by simple one-hand switching of the potential circuit.

SPECIFICATIONS

Rating.....Full-scale, single-phase kw:
Voltage range, 100 to 600 volts, a-c
Current range, 15 to 600 amperes, a-c
3-6-20-60-200-300

Frequency range .....50-70 cycles
Accuracy .....3-5% of full scale
Scale length, inches 2½
Dimensions, inches .....14 (long) by 4 (wide) by 2¼ (deep)
Weight, pounds .....3.65, complete with leads
Diameter of hook openings, inches 2
High-potential .....4000 volts rms
A-c volts hook to potential circuit

*Registered trade-mark of General Electric Co.

List Price:
Type AK-2 hook-on wattmeter, Cat. No. 378X88 .....each, $84.75
Leather carrying case, Cat. No. 8941377 each, 10.00

HOOK-ON POWER-FACTOR METER, TYPE AK-3

This new AK-3 power-factor meter completes G-E's line of hook-on instruments. Featuring all the

portability and convenience of the AK-1 and the AK-2, this instrument permits direct measurement of power factor without cutting conductors or interrupting service. May be used on any balanced three-phase circuit. Measures both lagging and leading power factor on circuits of 100 to 600 volts and 15 to 600 amperes.

Industrials will want the AK-3 to check requirements for corrective equipment to reduce power costs. Central stations will find the AK-3 useful in determining how best to utilize existing distribution facilities.

SPECIFICATIONS

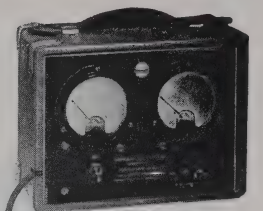
Range—Scale A 0.5 - 0 - 0.5 lag-lead
Scale B 1.0 - 0.5 lead
Scale C 0.5 - 1.0 lag

Circuit limitations
Volts 120-600 nominal
Amperes 15-600

Accuracy.....0.05 power factor
Frequency range.....50-90 cycles
Scale length, inches.....13½
Overall dimensions, inches....14 by 4 by 2¼
Weight, pounds 4½

Cat. No.	Description	Price, each
548X13	Type AK-3 hook-on power-factor meter	**$84.75**
8941377	Leather carrying case	**10.00**

G-E THERMOCOUPLE VACUUM GAGE



A portable, self-contained vacuum gage that provides a convenient means of measuring pressure up to 100 microns Hg at accuracy of 5% or one micron, whichever is greater. It works on the principle that the heat loss of the gage-tube filament is a function of the pressure of the medium enclosing the filament. By use of tubes installed at desired locations, pressure readings at several points in a vacuum system can be obtained.

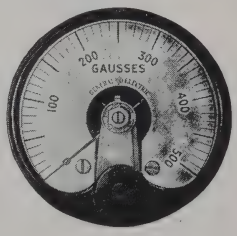
Thermocouple vacuum gage, portable, scale marked 0-200 microns, furnished with uncalibrated gage tube .....Price, each **$115.00**

Thermocouple vacuum gage, portable, scale calibrated in 50 arbitrary divisions, furnished with calibrated gage tube .....Price, each **$130.00**

G-E GAUSS METER

For Measurement of Flux Density

A simple device for the direct measurement of density of flux of permanent magnets and d-c electromagnets. For operation, the meter is held in one hand, and the rigid exploring rod protruding from the back of the meter is placed in the field to be checked. A small magnet in the end of the tubular prod is connected by a movable shaft to the pointer. The magnet tends to line up, in direction and polarity, with the field. Manual rotation of the instrument case gives direction of flux, when pointer is at 0 position, and magnitude of flux when pointer is at maximum deflection. Compact and low-cost, yet equal or superior to electronic fluxmeters.



Accuracy .....5 per cent

Dimensions
Case .....2-in. diam by 1 in. deep
Prod .....0.075-in. diam by 1¼ in. long
or 0.090-in. diam by 5 in. long

Weight .....3 oz.

Gausses	Price, Each*	Gausses	Price, Each*
0–100	**$55.00**	0–2500	**$55.00**
0–500	**55.00**	0–5000	**55.00**
0–1000	**55.00**		

* Price includes carrying case and standard magnet.

Specify range in gausses and prod length.

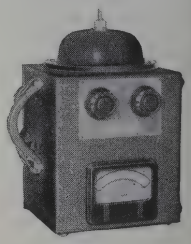
CREST VOLTMETER

SPECIFICATIONS

Scale ranges 0-5,000, 0-10,000, 0-20,000, or 0-30,000 volts
Accuracy .....± 3% of full scale
Dimensions, inches.....15 by 11 by 9
Weight .....23 lb.

Here is a sturdy, portable instrument for measuring the crest value of voltages as high as 30,000 volts which occur at least once a second and remain at substantially crest value for at least a millionth of the interval between crests. It is useful, in either design of production testing for measuring ignition voltages of internal-combustion engines. It can also be used for measuring overvoltage caused by switching of electric circuits, and overvoltage from discharges that accompany high-potential testing.

The equipment consists of a self-contained capacitance voltage divider and a battery-operated electronic crest voltmeter, and is mounted in a sturdy steel case which has a corrosion-resistant black crackle finish. Price, **$385.00.**



G-E PORTABLE DOUBLE BRIDGE

A simple, practical instrument for measuring low values of resistance in electric apparatus such as motors, generators, transformers, cable, appliances, etc.

Galvanometer ratio switch, dial, binding posts, and all internal parts are mounted on the top panel which is easily removable for checking or adjusting.

Accuracy .....0.1 per cent of full scale
Scale .....Potentiometer dial calibrated in ohms
Range .....0.0001 to 22 ohms
Dimensions ....9 by 13 by 8 in.
Weight .....16 lb

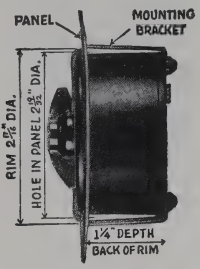
A set of 5-foot connection leads is furnished with each instrument.

Price.....each **$298.00**

MARK-TIME INDUSTRIAL SWITCHES

FOR BUILT-IN APPLICATIONS

Regular type dial illustrated. Other dials obtainable are Hold type, Stop type, or Toggle type — each for a definite type of application.



Note U-type bracket and mounting dimensions.

Series 4900 — 5000

Manufacturers of appliances, machines, and equipment operated by electricity, are making their products of more service to the user and more saleable, with these built-in timing switches. Any device operated by a motor or utilizing electrical current, needs Mark-Time.

Mark-Time switches are single-pole, single-throw; standard rating — 10 amps., 125 volts; 5 amps., 250 volts.

These units are also available in two circuits, four terminal type in the various time intervals of 60 seconds, 5 minutes, 15 minutes, 30 minutes, 60 minutes, and five hours.

Mark-Time switches are used as standard equipment by many of the world's largest manufacturers of electrical appliances. They give a product a new and interesting talking point for increased sales.

Typical Applications (Appliances)

Washing machines, cookers, air conditioners, beauty parlor machines, electric roasters, distilling equipment, radios, sun lamps, medical or laboratory apparatus, refrigerators, testing instruments, fans, ventilators, stoves, motor driven tools, restaurant equipment, electronic devices, electric furnaces, mixers.

Typical Applications (Factory Production)

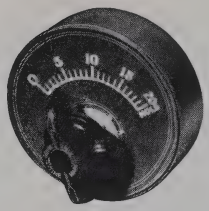
Practically every manufacturer needs Mark-Time to improve quality, cut down waste and spoilage, and lower manufacturing costs. For electrical and non-electrical production processes Mark-Time signal's "times's up" from raw material to finished product.

Vulcanizing, cleaning and dying, metal treating, textile processes, tanning, inspection or assembly, moulding.

Complete details of regular models, special features for any application on request.

MARK-TIME SWITCHES

4700 SERIES ELECTRIC TIME SWITCH

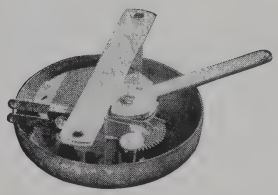


Center stud mounted "Off" type switch in corrosion resistant steel case. Set and wound simultaneously by a single twist of the knob. Especially designed for short timing cycles — maximum 24 minutes. Special variations in timing available upon request. Furnished without dial or knob.

Dimensions: Diameter 2½ inches, depth $\frac{13}{16}$ inch. Regularly supplied with 150-watt contacts. For A.C. operation only. This unit was particularly engineered to time short cycles accurately, and at the same time take up a minimum amount of space. Center stud mounting facilitates incorporation in such devices as sun lamps, heating pads, electrical kitchen appliances, beauty shop equipment, etc.

Price on request.

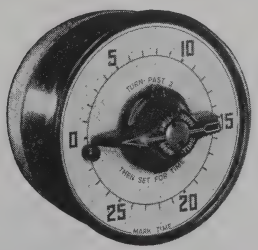
BUILT-IN BELL-TIMERS AND SWITCHES



Series 4400 — Furnished at contract prices to appliance manufacturers, with or without housing, in any timing between 2 minutes and 30 minutes.

Bell Timer — Rings a clear resonant bell at any time set. For toasters, percolators, etc.

Switch — "Off" type, 150 watts rating. For pin game or other low-current requirements.



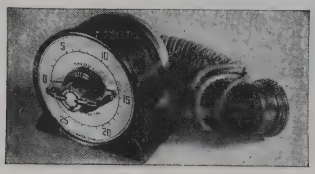
Series 5081 — Excellent for non-electrical test work, where operator is at hand. Rings one loud, clear chime at end of time set. No electrical connections. Standard timing, 15 minutes and 60 minutes. Special models with etched dials available for appliance application when merchandising style is desired.

Prices on request.

MARK-TIME SWITCHES

MARK-TIME PORTABLE SWITCHES

Controls the time operations of any electrical appliance, device or circuit. Black bakelite case. Brushed chromium dial. Equipped with 6 feet rubber extension cord and series tap plug. Single-pole, single-throw. Current rating—15 amp., 125 volts; 5 amp., 250 volts; A.C. or D.C., any cycle.



Turns current "off" at any time up to maximum time interval of switch. Used for heating pads, washing machines, electrical kitchen appliances, air conditioners, fans, room heaters, beauty shop machines, industrial machinery.

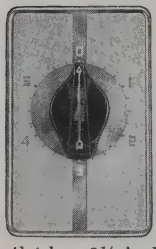
No.	Description	Price
5901	15 minute "off" switch	**$8.85**
5902	30 minute "off" switch	**8.85**
5903	60 minute "off" switch	**7.85**

No. 5905 5-HOUR "ON" OR "OFF" SWITCH

Turns current "on" or "off" at any time up to a maximum of five hours. 15 amperes. Used for radio sets, ventilating fans, neon signs, electric roasters, refrigerators, oil burners, battery chargers, garage heaters, poultry and dairy applications, and all uses listed under No. 5902.

Price, No. **5905** 5-hour "on" and "off" switch ..... each **$9.75**

9000 SERIES WALL SWITCH



Wall type unit which may be used to provide delayed action for porch or garage lights where it is desired to provide illumination for any predetermined time interval. Mechanically operated, wound and set simultaneously for time by merely turning the knob clockwise. Rugged and durable, this switch has full 20 amp. capacity and is rated for continuous duty. Ivory finish. Plate sets flush with wall in outlet box 2½ inches or more deep.

No. **9000** Series Wall Switch in any timing up to 12 hours ..... each **$7.95**

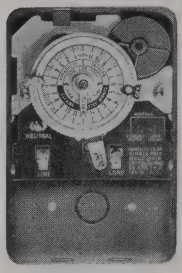
5700 PHOTOGRAPHIC TIMER

An attractive unit mounted in black bakelite case timed for 60 minutes, and easily portable for service anywhere in the home. Excellent for timing cooking operations, phone calls, sun lamp treatments, etc. Sounds lingering chime note at end of set time. Adjustable stop permits resetting by sense of touch.

Price, No. **5705** (60 sec.) ..... each **$6.75**

INTER-MATIC TIME SWITCHES

For Ordinary Automatic Control Requirements



These INTER-MATIC Time Switches are sturdy, accurate, and dependable. In spite of their low cost, they represent the very finest in design, material and workmanship.

Recommended for controling store lighting, neon signs, apartment hall and stairway lights, outdoor poster lighting, refrigerator defrosting, pumps, blowers, attic fans, etc. Rated 35 amps. at 125 volts.

Particular buyers will like the many outstanding features which make INTER-MATIC the easiest time switch to install, set and operate.

Model No.	Description	Shpg. Wt. Lbs.	Price Each
TS50SP	Single Pole, Single Throw	4	**$10.95**
TS50DP	Double Pole, Single Throw	4	**12.95**

Above prices are for 125V. 60 cycle models, for other voltages and cycles, add **$1.00.**

Specifications

Timing Motor: Reliable, self-starting, slow speed, high torque, synchronous, quiet, fully enclosed, permanently lubricated. Easy to check operation thru window in motor cover.

Time Dial: Large numbers, clearly defined time divisions, easily set.

Timing Range: Minimum—1 hour. Maximum—23 hours. Up to 12 "on" and "off" operations every 24 hours.

Manual Control: The switch may be turned "on" or "off" manually whenever desired, irrespective of the time settings.

Automatic Reset: Regardless of whether the switch has been turned "on" or "off" manually, the time cycle is always resumed automatically.

Terminals: Large terminal screws. Terminals are covered. Large bus bars carry the current.

Knockouts: Combination ½-inch and ¾-inch, one in the back, one in each side of the case, and two in the bottom.

Case: Drawn steel, round corners, 7¾ inches high, 5 inches wide, 3 inches deep, in light hammered finish. Hole provided in hasp for seal or lock.

Accessibility: Entire mechanism removed by pressing a single metal clasp. All parts easily replaced.

Installation: May be installed either outdoors or indoors. Not waterproof.

Trippers: No special dial required for adding trippers. Trippers attached without removing the dial.

Switch Contacts: Large silver, snap-action contacts. Up to 35 amperes at 125 volts.

distribution and
specialty transformers,
lightning arresters,
cutouts, regulators,
capacitors

G-E BALLASTS FOR GENERAL-LINE FLUORESCENT LAMPS — 60 CYCLES*

Lamp Watts	Circuit Voltage	Cat. No. Leads Out End	Cat. No. Two-way Lead	List Price, Each	No. of Units per Std Pkg	Approx Ship. Wt per Std Pkg, Lb	Approx Net Wt Each, Lb	Approx Watts Loss †	Line Current, Amp	Approx Dimensions, Inches	Case Style
Uncorrected-power-factor—Single-lamp											
4	110–125	58G848	.....	**$1.10**	20	16	¾	1.75	0.110	4⅜ by 1²⁵⁄₃₂ by 1¼	A
6	110–125	58G818	.....	**1.10**	20	16	¾	2	0.145	4⅜ by 1²⁵⁄₃₂ by 1¼	A
8	110–125	58G649	.....	**1.10**	20	16	¾	2.8	0.175	4⅜ by 1²⁵⁄₃₂ by 1¼	A
‡13	110–125	89G413	.....	**2.50**	10	26	2½	5	0.35	6½ by 2⅜ by 1⅝	G
14	110–125	58G862	.....	**.65**	20	17	¾	4.5	0.40	4⅜ by 1²⁵⁄₃₂ by 1¼	A
15	110–125	58G670	.....	**.65**	20	17	¾	4.5	0.30	4⅜ by 1²⁵⁄₃₂ by 1¼	A
20	110–125	58G671	.....	**.65**	20	17	¾	4.5	0.35	4⅜ by 1²⁵⁄₃₂ by 1¼	A
14/15/20	110–125	89G320¶	.....	**2.40**	10	29	2¾	12	0.82	6½ by 2⅜ by 1⅝	G
25	110–125	59G908	.....	**1.35**	10	16	1⅜	10	0.52	6⅜ by 1²⁵⁄₃₂ by 1¼	A
30	110–125	89G304	.....	**1.70**	10	26	2½	8.5	0.65	6½ by 2⅜ by 1⅝	G
40	110–125	89G307	.....	**1.70**	10	26	2½	8.5	0.80	6½ by 2⅜ by 1⅝	G
40	199–216	58G676	.....	**2.20**	10	15	1½	10	0.41	6⅜ by 1²⁵⁄₃₂ by 1¼	A
40	220–250	58G675	.....	**2.20**	10	15	1½	10.5	0.41	6⅜ by 1²⁵⁄₃₂ by 1¼	A
High-power-factor—Single-lamp											
‡13	110–125	89G414	.....	**$5.50**	10	40	3½	5	0.175	10 by 2⅜ by 1⅝	G
14	110–125	58G864	.....	**3.85**	10	18	1⅝	3.6	0.20	8¹³⁄₁₆	
15	110–125	58G640	.....	**3.85**	10	20	2	4.5	0.19	8¹³⁄₁₆ by 2⅛ by 1½	
20	110–125	58G641	.....	**3.85**	10	20	2	4.5	0.23	8¹³⁄₁₆	B
30	110–125	89G344	.....	**4.10**	10	38	3⅝	10.5	0.35	10	
40	110–125	89G347	.....	**4.10**	10	38	3⅝	11	0.45	10 by 2⅜ by 1⅝	G
40	199–216	58G646	.....	**5.00**	10	27	2½	8.5	0.29	10¾	
40	220–250	58G645	.....	**5.00**	10	32	2⅞	9.5	0.26	10¾ by 2⅛ by 1½	B
40	240–280	58G925	.....	**6.00**	10	62	5¾	10	0.22	9½	
85/100‡	110–125	58G628	.....	**11.00**	4	46	10⅝	25	1.20	14⅜ by 3⅛ by 2¹¹⁄₃₂	C
Uncorrected-power-factor—Multiple-lamp											
(2) 14	110–125	58G914	.....	**$1.30**	10	16	1½	9	0.74	6⅜	
(2) 15	110–125	58G691	.....	**1.30**	10	16	1½	9	0.64	6⅜ by 1²⁵⁄₃₂ by 1¼	A
(2) 20	110–125	58G692	.....	**1.30**	10	16	1½	9	0.70	6⅜	
(2) 20	110–125	89G321¶	.....	**3.00**	10	30	2⅞	12	0.90	6½ by 2⅜ by 1⅝	G
(2) 25	110–125	59G909	.....	**2.75**	10	31	3	17	1.05	8¹³⁄₁₆	
(3) 14	110–125	59G352	.....	**1.95**	10	26	2½	13.5	1.19	8¹³⁄₁₆	
(3) 15	110–125	59G369	.....	**1.95**	10	26	2½	13.5	0.96	8¹³⁄₁₆ by 2⅛ by 1½	A
(3) 20	110–125	59G347	.....	**1.95**	10	26	2⅝	13.5	1.05	8¹³⁄₁₆	
(3) 25	110–125	59G910	.....	**4.10**	10	46	4⅜	26	1.60	14⅝ by 2⅛ by 1½	B

HIGH-POWER-FACTOR—TULAMP AND 3-LAMP

Standard Cross Section

(2) 30	110–125	58G980	.....	**$6.00**	10	65	6⅜	12.5	0.7	9½	
(2) 40	110–125	58G983	59G483	**5.50**	10	65	6⅜	15.5	0.85	9½	
(2) 40	199–216	58G984	.....	**7.15**	10	74	7	11.5	0.5	9½	
(2) 40	220–250	58G985	.....	**6.00**	10	72	7	12.5	0.43	9½	
(2) 40	240–280	58G922	.....	**7.15**	10	72	7¼	15	0.4	9½	
(3) 40	110–125	59G276	59G487	**9.90**	4	44	10¾	23	1.3	14⅜ by 3⅛ by 2¹¹⁄₃₂	C
(3) 40	199–216	59G277	.....	**11.00**	4	40	9¾	16	0.70	14⅜	
(3) 40	220–250	59G278	.....	**11.00**	4	44	10	20	0.60	14⅜	
(2) 85/100	110–125	58G696	59G496	**14.25**	4	63	15	32	2.1	19¼	
(2) 85/100	220–250	58G698	.....	**16.50**	4	62	15	32	1.1	19¼	
(2) 85/100	240–280	58G923	.....	**16.50**	4	67	16⅜	35	1.0	19¼ by 3⅛ by 2¹⁹⁄₃₂	C

Small Cross Section

(2) 15	110–125	58G678	.....	**$5.20**	10	38	3¾	9	0.35	14⅝ by 2⅛ by 1½	B
(2) 20	110–125	58G679	.....	**5.20**	10	40	3⅞	9	0.45	14⅝	
(2) 30	110–125	58G940	.....	**8.25**	10	63	6⅜	16	0.7	18⅛ by 2⅛ by 1¹³⁄₃₂	B
(2) 40	110–125	89G343	.....	**6.00**	10	65	6¼	18.5	0.85	16⅜ by 2⅜ by 1⅝	F
(2) 40	220–250	58G945	.....	**7.70**	10	62	6	15	0.45	18⅛ by 2⅛ by 1¹³⁄₃₂	B

SINGLE AND TULAMP BALLASTS FOR 40-WATT INSTANT-STARTING LAMPS

40	110–125	89G363♯	.....	**$10.45**	4	41	8¾	20	0.56	11¾	
(2) 40	110–125	59G373♯	59G383	**11.00**	4	47	11¾	28	0.98	14⅜	
(2) 40ϕ	110–125	59G942♯	.....	**11.00**	4	49	11¾	30	1.0	14⅜ by 3⅛ by 2¹¹⁄₃₂	C
(2) 40	110–125	89G374♯	.....	**7.70**	4	34	8¼	20	0.9	11¾	

* A complete line of standard 50-cycle ballasts is available. Special ballasts for certain other frequencies can be obtained.
† Losses and power factor are given at rated lamp watts input and nominal voltage rating of 118 volts.
§ 12T8 lamp. ¶ Trigger-start ballast, no starter required.
ϕ For use in ambient temperatures as low as —20 F.
Refer to Bulletin GEA-4950 for complete description and application data on ballasts for fluorescent lamps.
♯ For 40-watt bi-pin lamp, 48T12 single-pin lamp, or 60T17 low-brightness lamp.
‡ Same ballast can be used for either the 85- or 100-watt lamp

G-E BALLASTS FOR SLIMLINE AND COLD-CATHODE LAMPS

60 Cycles, 110-125 Volts — High Power Factor

Lamp Size	Lamp Watts	Lamp Current Amp	Cat. No.	List Price, Each	Open-circuit Voltage	Standard Package: Quantity	Standard Package: Approx Ship. Wt, Lb	Standard Package: Approx Net Wt Each, Lb	Approx Watts Loss *	Line Current, Amp	Approx Dimensions, Inches	Case Style
Single and Tulamp Ballasts for Slimline Lamps												
42T6	18	0.120	59G740	**$9.35**	450	10	62	6	9	0.33	9½	
	(2) 18		59G741	**11.00**		4	34	8	15	0.42	11¾	
	25	.200	59G742	**9.90**		10	68	6⅝	13	0.42	9½	
	(2) 25		59G743	**11.55**		4	36	8⅝	21	0.65	9½	
	33	.300	59G744	**12.00**		10	70	6¾	19	0.48	11¾	
	(2) 33		59G745	**14.85**		4	46	11	32	1.0	14⅜	
64T6	27.5	.120	59G770	**9.35**	600	10	68	6½	11	0.38	9½	
	(2) 27.5		59G771	**11.00**		4	36	8⅝	22	0.70	11¾	
	39	.200	59G772	**10.45**		4	33	7⅝	17	0.54	11¾	
	(2) 39		59G773	**12.00**		4	43	10¼	31	0.90	14⅜	
	51	.300	59G774	**13.20**		4	37	8⅞	21	0.78	11¾	
	(2) 51		59G775	**15.40**		4	58	14¼	37	1.25	19¼ by 3⅛ by 2 11/16	C
72T8	26	.120	59G770	**9.35**	600	10	68	6½	11	0.38	9½	
	(2) 26		59G771	**11.00**		4	36	8⅝	22	0.70	11¾	
	38	.200	59G772	**10.45**		4	33	7⅝	17	0.54	11¾	
	(2) 38		59G773	**12.00**		4	43	10¼	31	0.90	14⅜	
	51	.300	59G774	**13.20**		4	37	8⅞	21	0.78	11¾	
	(2) 51		59G775	**15.40**		4	58	14¼	37	1.40	19¼	
96T8	34	.120	59G790	**10.15**	750	10	69	6⅝	11	0.47	9½	
	(2) 34		59G791	**12.00**		4	43	10⅛	31	0.92	14⅜	
	50.5	.200	59G792	**11.00**		4	36	8⅞	20	0.67	11¾	
	(2) 50.5		59G793	**12.00**		4	46	11⅝	32	1.2	14⅜	
	69	.300	59G794	**13.20**		4	44	10⅝	25	0.83	14⅜	
	(2) 69		59G795	**15.95**		4	72	17½	46	1.60	19¼ by 3⅛ by 2 10/16	C
48T12	36	.430	89G363	**10.45**	450	4	41	8¾	20	0.56	11¾	
	(2) 36	.430	59G942#	**11.00**		4	49	11¾	30	1.00	14⅜	
	(2) 36	.430	59G373	**11.00**		4	47	11¾	28	0.98	14⅜ by 3⅛ by 2 11/16	C
	(2) 36	.430	89G374ϕ	**7.70**		4	34	8¼	20	0.90	11¾	
72T12	54	.430	59G948	**13.20**	500	4	46	10¾	22	0.75	14⅜	
	(2) 54	.430	59G949	**15.40**	500	4	67	16	33	1.40	19¼ by 3⅛ by 2 11/16	C
96T12	73.5	.430	59G964	**13.20**	625	4	51	12⅜	25	0.90	14⅜	
	(2) 73.5	.430	59G464	**17.50**	625	4	76	18	40	1.75	19¼	
	(2) 73.5	.430	89G371ϕ†	**13.20**	775	4	44	10½	27	1.55	11¾	

Tulamp (Terminal Board) Ballasts for Slimline Lamps

64T6 or 72T8	(2) 39	.200	59G781	**$12.00**	600	4	61	14⅝	25	1.0	12 15/16	
	(2) 51	.300	59G779	**15.40**	600	4	62	15	30	1.25	12 15/16 by 4¾ by 2⅜	D
96T8	(2) 50.5	.200	59G798	**12.00**	750	4	61	15	28	1.2	12 15/16	
96T8	(2) 69	.300	59G799	**15.99**	750	4	72	17⅜	36	1.5	14 5/16	
96T12	(2) 73.5	.430	59G458	**17.50**	625	2	44	21	40	1.75	17⅜	
72T12	(2) 54	.430	59G947	**15.40**	500	4	71	17	33	1.4	14 5/16	

G-E BALLASTS FOR CIRCLINE LAMPS

60 cycles—110-125 volts

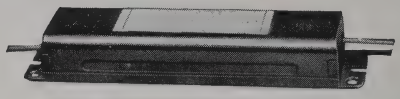
Lamp Diam, In.	Lamp Watts	Type	Cat. No.	List Price, Each	Standard Package: Quantity	Standard Package: Ship. Wt, Lb	Approx Net Wt Each, Lb	Approx Watts Loss *	Line Current, Amp	Min. Line Power Factor Per cent *	Approx Dimensions, Inches	Case Style
12	32	Single-lamp	59G420	**$3.00**	10	41	3⅞	8.5	.67	50	8 13/16 by 2¾ by 1 13/16	B
12	32	Single-lamp	59G425	**6.00**	10	56	5⅛	8	.38	90	7 by 2⅜ by 1 13/16	B
12	32	Single-lamp	89G300	**1.65**	10	26	2⅜	8.5	.60	50	6½ by 2⅜ by 1⅝	G
12	32	Single-lamp	89G332§¶	**2.40**	10	29	2¾	14	1.00	50	6½ by 2¾ by 1⅝	G
12–8¼	32–22	Tulamp	59G429	**7.70**	10	72	6¾	14	.60	95	8½ (dia) by 1 13/16	E
12–8¼	32–22	Tulamp	59G443	**7.70**	10	69	6½	14	.60	95	9½ by 3⅛ by 2 11/16	C
8¼	22	Single-lamp	59G419	**1.30**	20	24	1⅛	4.5	.39	50	4 15/16 by 2½ by 1¼	A
8¼	22	Single-lamp	59G428	**4.65**	10	22	2	4.5	.25	90	8 15/16 by 2½ by 1½	B
Junction Box‡			59G418	**.30**	50	23	7/16					

* Losses and power factor are given at rated lamp watts input and nominal voltage rating of 118 volts.
‡ For use with all ballasts of circular construction.
§ This ballast is not suitable for portable-lamp applications, as the open-circuit voltage (151 volts) is in excess of that permitted by the National Electric Code for portable devices. ¶ Trigger-start ballast, no starter required.
# For use in extreme cold, where ambient temperatures may range as low as — 20° F. ϕ Operates two lamps in series.
† May also be used with 72T12 slimline lamps.

G-E BALLASTS FOR FLUORESCENT LAMPS

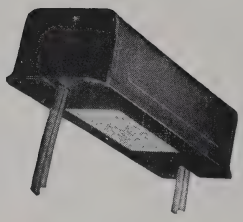
CASE STYLES

(A) "Bathtub" type

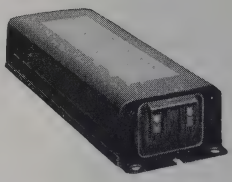


(B) Small cross-section ballast

(C) "Brick" type, leads out end



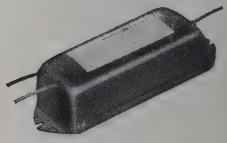
(C) "Brick" type, two-way lead



(D) Terminal-board Slimline ballast

(E) Circular ballast for Circline Lamps (Junction box & mounting bracket are optional)

(F) Small cross-section ballast



(G) Brickette cross-section ballast

EQUIPMENT FOR DIRECT-CURRENT OPERATION

Lamp Watts	Circuit Voltage	Cat. No.	List Price, Each	Standard Package		Approx. Net Wt Each in Lb	Approximate Dimensions in Inches	Case Style
				Quantity	Approx. Ship. Wt in Lb			
Single-lamp Ballasts								
6–8–14–15–20	110–125	58G690	**$1.10**	20	18	7/8	$4\frac{9}{32}$ by $1\frac{25}{32}$ by $1\frac{1}{4}$	
30–32–40	220–250	58G690	**1.10**	20	18	7/8	$4\frac{9}{32}$	

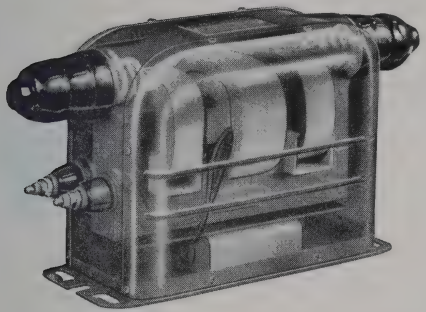
FILTERS FOR SUPPRESSION OF RADIO INTERFERENCE

	Circuit Voltage	Cat. No. of Filter	List Price, Each	Standard Package		Approx Net Wt Each in Lb	Approx. Watts Loss #	Approximate Dimensions in Inches	Case Size
				Quantity	Approx. Ship. Wt in Lb				
Reactor-capacitor-type Filter¶	Maximum 250	89G635	**$2.75**	20	16	¾ lb	1½	$5\frac{25}{32}$ by $2\frac{1}{32}$ by $1\frac{1}{4}$	A

Losses are given at maximum rated current.
¶ Maximum current rating, 3.5 amp.

G-E LUMINOUS-TUBE TRANSFORMERS

CLASS C HIGH-POWER-FACTOR TRANSFORMERS



Phantom view—G-E Streamliner luminous-tube transformer

The use of General Electric Class C high-power-factor transformers is strongly recommended because:

1. They comply with all local regulations requiring signs and decorative displays to operate at high power factor.
2. By adopting Class C transformers as their standard, sign manufacturers can save on stock and handling charges, and signs will be universally applicable.
3. High power factor permits the installation of more signs on a given supply circuit, and the use of more transformers on a given sign circuit.
4. In districts served by direct current, smaller rotary converters or dynamotors can be used to supply a given installation.
5. Class C transformers in general cost less than the combination of Class D uncorrected-power-factor transformers and separate capacitor-transformers for improving the power factor.

How High Power Factor Is Provided in Class C Transformers

A built-in capacitor raises the over-all operating power factor of the tubing and transformers to approximately 90 per cent.

It is a G-E Pyranol* capacitor—one of a famous family that has established new records for reliability in case after case where high power factor is wanted.

CLASS D UNCORRECTED-POWER-FACTOR TRANSFORMERS

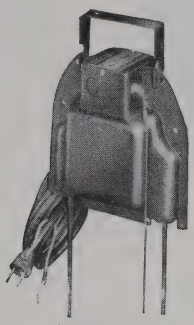
Class D transformers contain no means of increasing the power factor and, if such improvement is desired, separate capacitor-transformers must be installed.

WEATHERPROOF TRANSFORMERS

These metal-enclosed transformers are designed for installation outdoors without additional protective housings. The cases are of extra-heavy-gage sheet steel with a high-quality, weather-resisting finish. Two knockouts in each side of the case near the bottom permit both the high-voltage and low-voltage connections to be made by means of conduit. The low-voltage leads are brought out through a standard ½-inch conduit coupling and bushing.

Catalog numbers and data are given on the following pages.

* Registered trade-mark of General Electric Co.



Latest addition to the G-E family is the "Midget", a new hanger transformer—completely different in appearance, approximately half the size and weight of a conventional unit of comparable rating

INDOOR HANGER TRANSFORMERS

The outstanding operating record of G-E "Streamliner" luminous-tube transformers is common knowledge in the sign industry. The same high quality that has achieved this recognition is also found in the G-E line of hanger transformers. Designed for easy installation in restricted spaces, and offering a pleasing appearance, these transformers incorporate many of same construction features that are in the Streamliner transformer. Light weight makes these transformers easy to handle—convenient brackets facilitate rapid and secure installation.

Thorough planning and outstanding design, both mechanical and electrical, make for easy installation and reduced maintenance cost.

FEATURES

1. All units incorporate a built-in low-voltage junction box.
2. Primary pull switch mounted on junction-box cover.
3. Six-foot primary cord set, three conductors with 2-prong plug and separate ground lead.
4. Secondary leads of GTO lacquered cable 30 inches long.
5. Glossy-black-japan finish, baked for permanence.
6. Versatile hanger brackets.

UNDERWRITERS APPROVED

G-E LUMINOUS-TUBE TRANSFORMERS

OUTDOOR TRANSFORMERS

(For Installation Outdoors within Protective Housing)
***60 Cycles—115 Volts Primary**
One High-voltage Terminal at Each End of Case

Secondary Volts	Secondary Ma	Cat. No.	List Price, Each	‡ Capacity, Volt-amperes	Approx Primary Load Current, Watts	§ Approx Primary Input, Watts	Approx Operating Power Factor, Per Cent	Approx Wt, Lb Net	Approx Wt, Lb Ship.	Illustration Fig.
Class C—High Power Factor										
15,000	120	51G271	**$83.55**	900	7.30	650	90	78	82	2
15,000	60	51G303¶	**42.85**	450	3.90	410	90	57	59	1
15,000	30	51G11¶	**27.80**	250	2.17	225	90	33	35	1
12,000	120	51G273¶	**74.45**	800	7.00	720	90	70	76	2
12,000	60	51G305¶†	**40.55**	400	3.50	360	90	55	57	1
12,000	30	51G12¶†	**26.05**	200	1.74	180	90	27	29	1
12,000	18	51G353¶	**24.30**	125	1.08	115	90	23	25	1
9000	120	51G275¶	**59.30**	550	4.80	500	90	60	65	2
9000	60	51G307¶†	**34.15**	275	2.40	275	90	37	39	1
9000	30	51G13¶†	**23.75**	150	1.30	125	90	24	26	1
9000	18	51G355¶†	**20.85**	90	.78	85	90	22	24	3
7500	120	51G277¶	**49.05**	450	4.40	450	90	44	47	1
7500	60	51G309¶†	**30.70**	250	2.17	225	90	35	37	1
7500	30	51G14¶†	**22.60**	125	1.08	115	90	22	24	3
7500	18	51G357¶	**19.10**	75	.65	70	90	17	19	3
6000	30	51G15¶	**20.85**	100	.87	90	90	17	19	3
5000	120	51G281¶	**44.80**	300	2.90	300	90	38	41	1
5000	60	51G313¶	**24.90**	165	1.43	150	90	24	26	1
5000	30	51G16	**19.10**	75	.65	70	90	16	18	4
3000	60	51G317	**20.25**	100	.87	90	90	17	19	3
3000	30	51G36	**15.05**	50	.43	45	90	14½	16½	4
Class D—Uncorrected Power Factor										
15,000	120	51G270	**$55.10**	1650	15.0	700	50	71	75	2
15,000	60	51G302¶	**35.25**	825	7.17	410	55	40	42	1
15,000	30	52G21¶	**20.85**	450	3.50	220	50	27	29	3
12,000	120	51G272¶	**46.65**	1440	12.5	720	55	59	64	2
12,000	60	51G304¶	**33.15**	720	6.25	360	55	38	40	1
12,000	30	52G22¶	**19.70**	360	3.13	180	50	17½	19	3
9000	120	51G274¶	**41.15**	1000	8.70	500	55	50	55	2
9000	60	51G306¶	**28.40**	500	4.35	250	55	28	30	1
9000	30	52G23¶	**17.35**	280	2.44	140	50	16½	17½	3
9000	18	51G354¶	**15.15**	190	1.65	85	50	13	15	3
7500	120	51G276¶	**35.10**	825	7.80	450	55	40	42	1
7500	60	51G308¶	**22.10**	450	3.90	225	50	27	29	1
7500	30	52G24¶	**16.20**	225	2.5	100	50	13	15	3
7500	18	51G356¶†	**13.30**	150	1.30	70	45	12	14	3
6000	30	52G25¶	**15.80**	200	1.90	65	50	12	13	3
5000	120	51G280¶	**30.25**	550	5.30	300	55	33	36	1
5000	60	51G312¶	**18.30**	300	2.61	150	50	20	22	3
5000	30	52G26†	**13.70**	160	1.25	70	50	9¾	10¾	4
5000	18	51G360†	**10.30**	100	.87	45	45	8	9½	4
4000	30	52G27	**11.60**	140	1.00	60	50	9¼	10¼	4
3000	60	51G316	**13.45**	180	1.56	90	50	13	14½	3
3000	30	52G28†	**10.55**	100	.75	40	45	7	8	4
3000	18	51G364†	**9.10**	75	.65	32	40	7	8	4

Fig. 1

Fig. 2

Fig. 3

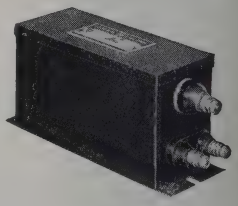


Fig. 4

* All these transformers can also be furnished for 50 cycles, 115-volt primary. The same electrical data will apply
† NESA standard ratings.
‡ In accordance with the Underwriters' Laboratories ruling, G-E luminous-tube transformers are rated on the basis of 80 per cent of the total measured volt-ampere input when the secondary winding is short-circuited and when power of rated voltage and frequency is applied to the primary winding. They are suitable for operation on circuits of 100 volts to 125 volts.
§ Values for approximate power input are based on a load equal to the maximum operating footage.
¶ Mid-point of high-voltage winding grounded (balanced design). These items only are equipped with ground terminal.

G-E LUMINOUS-TUBE TRANSFORMERS

INDOOR HANGER TRANSFORMERS WITH SECONDARY CABLE LEADS
60 CYCLES—115 VOLTS PRIMARY
CLASS D—UNCORRECTED POWER FACTOR

Secondary Volts	Secondary Ma	Cat. No.	List Price, Each	†Capacity, Volt-amperes	Approx Primary Load Current, Amperes	‡Approx Primary Input, Watts	Approx Operating Power Factor, Per Cent	Approx Wt, Lb Net	Approx Wt, Lb Ship.	Illustration, Fig.
15,000	30	52G421	**$24 20**	450	3.75	196	50	25	26	6
12,000	30	52G422§	**22.95**	360	3.00	165	50	18	19	6
12,000	24	52G423	**21.25**	250	2.18	140	50	18	19	6
9,000	30	52G424§	**20.00**	250	2.20	110	50	12	13	6
9,000	18	51G73	**15.35**	200	1.74	90	50	9	10	5
7,500	30	52G425	**17.90**	225	2.00	95	50	10	11	6
7,500	18	51G75†*	**13.45**	150	1.30	70	45	8½	9½	5
6,000	18	51G77	**12.65**	140	1.22	60	45	8½	9½	5
5,000	18	51G79*	**12.15**	110	.87	45	45	8	9	5

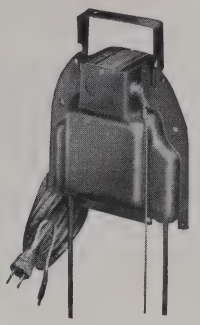


Fig. 5

CORE-AND-COIL-TRANSFORMERS—60 CYCLES—115 VOLTS PRIMARY
CLASS D—UNCORRECTED POWER FACTOR

Secondary Volts	Secondary Ma	Cat. No.	List Price, Each	Capacity, Volt-amperes	Approx Primary Load Current, Amperes	Approx Primary Input, Watts	Approx Operating Power Factor, Per Cent	Approx Wt, Lb Net	Approx Wt, Lb Ship.	Illustration, Fig.
7500	18	54G751¶	**$9.20**	150	1.30	70	50	4½	5	7
6000	30	54G706¶	**9.90**	180	1.56	90	50	6½	7	
6000	18	54G752¶	**8.35**	140	1.10	58	45	4¼	5¼	
5000	30	54G21	**8.80**	150	1.30	70	45	5½	6	
5000	18	54G153	**7.65**	110	.90	45	45	4	5	
4000	30	54G254	**7.85**	140	1.20	55	45	4½	5½	
4000	18	54G154	**6.90**	90	.80	35	45	3½	4½	
3000	30	54G19	**6.70**	100	.87	45	45	3½	4	
3000	18	54G155	**5.80**	75	.60	28	45	3	4	
2000	30	54G256	**5.75**	75	.60	28	40	3½	4½	
2000	18	54G156	**4.70**	50	.40	17	45	2	3	

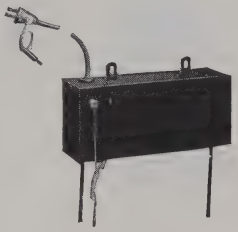


Fig. 6

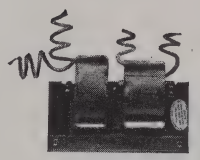


Fig. 7

WEATHERPROOF TRANSFORMERS§—HIGH POWER FACTOR
(For Installation Outdoors without Additional Protective Housing)
60 Cycles—115 Volts Primary Listed by Underwriters Laboratories

15,000	60	51G421	**$58.00**	450	3.90	410	90	50	53	8
15,000	30	51G425	**42.00**	250	2.17	225	90	38	40	
12,000	60	51G429*	**55.00**	400	3.50	360	90	46	48	
12,000	30	51G433*	**40.00**	200	1.74	180	90	36	38	
9000	60	51G437*	**45.00**	275	2.40	275	90	40	42	
9000	30	51G441*	**35.00**	150	1.30	125	90	32	34	
7500	60	51G445*	**41.00**	250	2.17	225	90	38	40	
7500	30	51G449*	**33.00**	125	1.08	115	90	29	31	

Fig. 8

* NESA standard.

† In accordance with the Underwriters Laboratories' ruling, G-E luminous-tube transformers are rated on the basis of 80 per cent of the total measured volt-ampere input when the secondary winding is short circuited, and when power of rated voltage and frequency is applied to the winding. They are suitable for operation on circuits of 100 to 125 volts.

‡ Values for approximate power input are based on a load equal to the maximum of operating footage.

§ Midpoint of high-voltage winding grounded (balanced design). These items are equipped with ground terminal.

¶ Not listed by Underwriters' Laboratories.

G-E DISPLAY SIGN TRANSFORMERS*
For Portable Indoor Signs and Decorations
60 Cycles—115 Volts Primary
CLASS D—UNCORRECTED POWER FACTOR

Secondary Volts	Secondary Ma	Cat. No.	List Price, Each	Capacity, Volt-amperes	Approx Primary Load Current, Amperes	Approx Primary, Input, Watts	Approx Operating Power-factor, Per Cent	Approx Ship. Wt, Lb	Illustration, Fig.
5000	18	53G857	**$12.50**	110	0.87	45	45	9¼	9

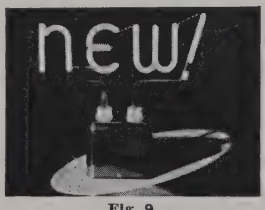


Fig. 9

* Not listed by Underwriters' Laboratories.

G-E BALLASTS FOR MERCURY LAMPS

APPLICATION

Auxiliary equipment for mercury-vapor lamps consists essentially of the proper size and type of ballast to provide the required electrical characteristics for lamp starting and operation. Ballasts are available for both 118-volt and 236-volt operation. They are listed in core-and-coil enclosed, and weatherproof types of construction, depending upon the service intended.

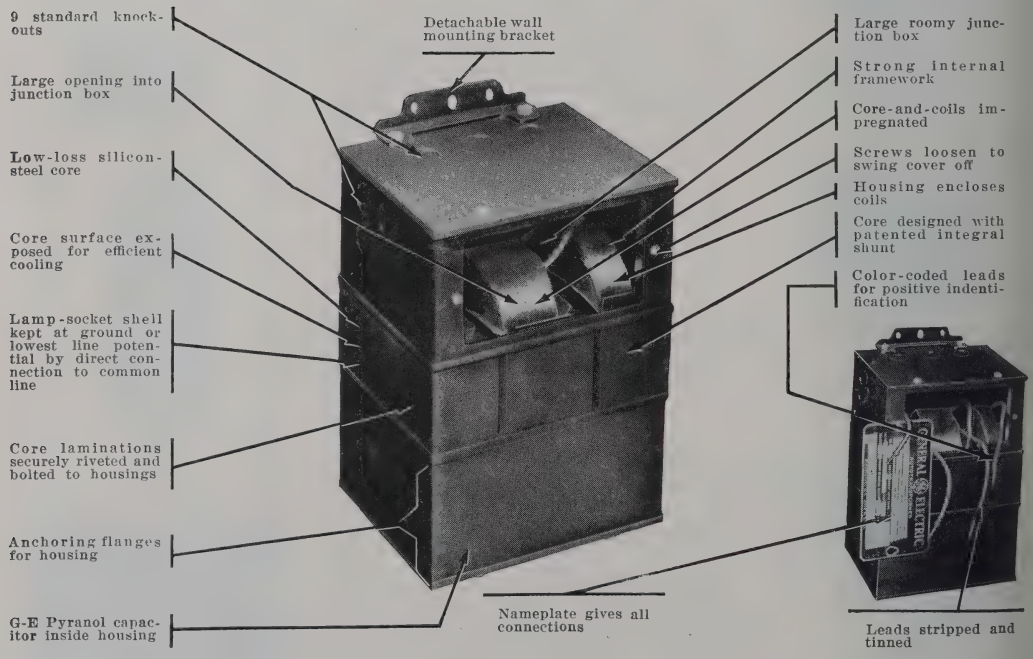
Tulamp ballasts which operate two lamps from a single ballast are available for the H-1, H-5, and H-15 lamps. They are recommended because they provide high, over-all power factor, good stability, line starting current less than the operating current, lower first cost, lower power losses, lower wiring costs, and reduced stroboscopic effect.

Single-lamp ballasts having built-in capacitors for power correction are available in enclosed design for most lamps. They are recommended in all cases to relieve the supply lines of unnecessary burden, giving better voltage conditions at the lamp and greater installation and operating economy.

The present standard Type H (Mercury) lamps have a letter-numeral combination which designates each. Lamps having the same numeral designation can be used on the same ballast. For example, a ballast for the H-4 lamp will provide the proper current and voltage characteristics for the A-H4, B-H4, C-H4, and E-H4 lamps since all of the sources have identical mercury arc characteristics. The prefix letters A, B, C, etc., simply indicate modifications in construction for different bulb shapes, burning position, or type of outer glass employed.

FEATURES

G-E Tulamp Ballast


9 standard knock-outs
Large opening into junction box
Low-loss silicon-steel core
Core surface exposed for efficient cooling
Lamp-socket shell kept at ground or lowest line potential by direct connection to common line
Core laminations securely riveted and bolted to housings
Anchoring flanges for housing
G-E Pyranol capacitor inside housing
Detachable wall mounting bracket
Nameplate gives all connections
Large roomy junction box
Strong internal framework
Core-and-coils impregnated
Screws loosen to swing cover off
Housing encloses coils
Core designed with patented integral shunt
Color-coded leads for positive indentification
Leads stripped and tinned
GENERAL ELECTRIC

G-E BALLASTS FOR MERCURY-VAPOR LAMPS

TYPES OF BALLASTS

Core-and-coil ballasts are recommended when they are to be built into the lighting fixture or machine by the fixture or equipment manufacturer. The fixture should be ventilated to allow free air circulation around the ballasts.

Enclosed single-lamp ballasts are listed for the H-1, H-2, H-4, H-5, H-9 and H-15 lamps. Roomy junction boxes are built into these ballasts. The ballasts can be mounted on the wall or ceiling or suspended from conduit. Thus, they can be installed in a variety of ways easily and quickly.

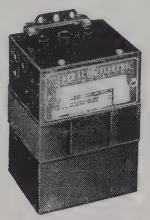
The enclosed single-lamp ballasts for H-9 lamps are provided with a junction box for direct conduit connection of line and lamp. These units are suitable for wall mounting.

Enclosed Tulamp ballasts are provided for the H-1, H-5, and H-15 lamps. As only one ballast is required for two lamps, lower first cost and installation cost result. These are suitable for wall or ceiling mounting. A large junction box is a part of the housing.

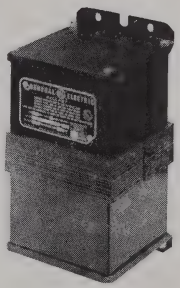
Weatherproof ballasts for outdoor installation are built in heavy sheet-metal housings with brackets for wall or pole mounting. The complete core-and-coil assembly is imbedded in a solid asphaltic compound which effectively guards against the entrance of moisture. These ballasts have leads for open wiring to the line and lamp circuits.

Frequency Cycles	Circuit Voltage	Approx Watts Loss	Line Power Factor Per Cent (Approx)	Cat. No. of Ballast	List Price, Each	Approx Wt, Lb		Approx Dimensions, Inches
						Net	Ship.	
BALLASTS FOR H-1, 400-WATT LAMPS								
Enclosed Tulamp								
60	118	75	95	89G14	**$40.00**	39	42	7 9/16 by 6 7/16 by 13 1/8
60	236	60	95	89G15	**40.00**	39	42	7 9/16 by 6 7/16 by 13 1/8
Core-and-coil Single Lamp								
60	118	55	60	89G160	**$17.00**	18	19	5 15/16 by 5 5/8 by 6 1/4
60	236/265	15	60	89G161	**16.00**	14	15	4 1/4 by 4 1/2 by 5 1/2
Enclosed Single Lamp								
60	118	50	90	89G164	**$25.00**	27	30	6 by 6 7/16 by 12
60	236/265	15	90	89G165	**23.00**	22	24	4 7/8 by 4 5/8 by 13 5/16
60	118	50	60	89G162	**19.00**	24	27	6 by 6 7/16 by 11 5/8
60	236/265	15	60	89G163	**17.00**	22	24	4 7/8 by 4 5/8 by 8 11/16
Weatherproof Single Lamp								
60	118	48	90	89G118	**$32.00**	37	40 1/2	6 3/8 by 6 23/32 by 12 1/3
60	118	40	60	89G116	**28.00**	32	35	6 3/8 by 6 23/32 by 11 5/8
BALLAST FOR H-2, 250-WATT LAMPS								
Enclosed Single Lamp								
60	118	30	90	89G170	**$25.00**	28	30	6 by 6 7/16 by 12
BALLAST FOR H-3, 85-WATT LAMPS								
Core-and-coil Single Lamp								
60	118	10	50	59G1A	**$9.00**	6 1/8	7	4 3/4 by 2 5/8 by 3 19/32

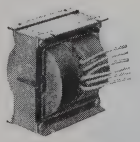
All of the above units are listed by Underwriters' Laboratories, Inc.



Typical enclosed Tulamp ballast



Typical enclosed single-lamp ballast



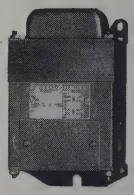
Typical core-and-coil ballast

Cat. No. 59G46 for poultry-house use

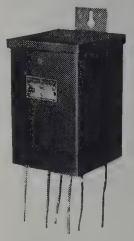
G-E BALLASTS FOR MERCURY-VAPOR LAMPS

Frequency Cycles	Circuit Voltage	Approx Watts Loss	Line Power Factor Per Cent (Approx)	Cat. No. of Ballast	List Price, Each	Approx Wt, Lb Net	Approx Wt, Lb Ship.	Approx Dimensions, Inches
BALLASTS FOR H-4, 100-WATT LAMP								
Core-and-coil Single Lamp								
60	118	20	50	89G140	**$10.00**	7	8	3¾ by 3⅜ by 4⅝
Enclosed Single Lamp								
60	118	20	90	89G182	**$20.00**	14	16	6 by 6⅞ by 11
60	118	20	50	89G142	**12.00**	8	9	5⅝ by 4 by 5
Weatherproof Single Lamp								
60	118	20	50	89G146	**$19.00**	9	10	4⅝ by 4¹³⁄₁₆ by 8¹³⁄₁₆
BALLASTS FOR H-5, 250-WATT LAMPS								
Enclosed Tulamp								
60	118	60	95	89G54	**$35.00**	36	39	7⅝ by 6⅞ by 13⅛
Core-and-coil Single Lamp								
60	118	35	50	89G150	**$17.00**	16	19	5¹¹⁄₁₆ by 5⅝ by 6¼
Enclosed Single Lamp								
60	118	30	90	89G192	**$25.00**	27	30	6 by 6⅞ by 12
60	118	30	50	89G191	**19.00**	22	25	6 by 6⅞ by 11⅝
CORE-AND-COIL BALLASTS FOR H-6, 1000-WATT LAMPS								
60	118	85	65	59G37	**$43.00**	45	48	9⅛ by 7½ by 6¼
60	230	85	65	59G38	**43.00**	45	48	9⅛ by 7½ by 6¼
ENCLOSED SINGLE-LAMP BALLASTS FOR H-9, 3000-WATT LAMPS								
60	230	165	90	89G200	**$175.00**	130	155	7 by 6⅝₂ by 36³⁄₁₆
60	460	155	90	89G201	**150.00**	110	135	7 by 6⅝₂ by 34⅝₁₆
60	575	140	90	89G202	**150.00**	105	130	7 by 6⅝₂ by 33⅛₁₆
BALLASTS FOR H-15, 1000-WATT LAMPS								
Enclosed Single Lamp								
60	460	45	50	89G5	**$19.00**	25	27	4⅞ by 4⅝ by 9¹¹⁄₁₆
60	460	40	90	89G6	**26.00**	25	27	4⅞ by 4⅝ by 14¹³⁄₃₂
Enclosed Tulamp								
60	460	100	90	89G7	**$46.00**	35	39	5⅜ by 4⅝ by 23¹⁹⁄₃₂

All units except those for the Types H-6 and H-9 lamps are listed by the Underwriters' Laboratories, Inc.



Typical enclosed single-lamp ballast for high-voltage circuits

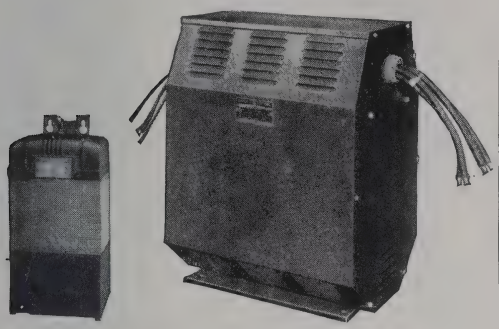


Typical weatherproof ballast

Ballast for H-9 (3000-watt) lamps

G-E DRY-TYPE TRANSFORMERS

Type M—For Indoor and Outdoor Service
Type D—For Indoor Service Only



Type M Type D

G-E dry-type transformers have a wide range of applications on circuits 600 volts and below. Such applications include supplying the proper voltage for special lamps, tools, bells, buzzers, airport lights, brazing, welding, testing, and industrial heating equipment. They are also used for insulating circuits to promote safety, operating lights and portable tools from power circuits, boosting voltage, phase changing, and many other applications.

In transformers rated 10 kva and below, as well as autotransformers of equivalent physical size, the Type M construction is used. It forms a solid, compact unit which dissipates heat from its external surfaces by radiation. In the larger sizes, the Type D natural draft construction is used. The transformer is effectively cooled by air currents which enter ventilating louvers in the housing and circulate around the core-and-coils.

These transformers are built in standard ratings up to 100 kva and 600 volts, 60 cycles. Special transformers, up to 200 kva for 60-cycle circuits, are built from an extensive line of standardized parts, economically and for quick delivery. They are applicable to circuits of 600 volts and below.

Type M transformers include a built-in junction box designed for conduit connection or for open wiring. For conduit connection, knockouts are provided in the sides, end, and back of the compartment. For open wiring, a fiber bushing is used in place of the bottom cover of the compartment.

Type D transformers have leads brought out for open wiring, through bushed holes in the side plates. For enclosed wiring, conduits can be run directly into these side plates, or when desired, 90-degree conduit outlets may be used.

Type D transformers are normally arranged for floor mounting, but when desired they can be wall-mounted by the use of angle-iron brackets.

Send for Bulletin GEA-897 for complete description.

G-E also has available a complete line of dry-type distribution transformers for primary circuits of 2400 to 14,400 volts, in sizes 3 to 500 kva inclusive.

NOTE: Class A (55 C Rise) units can be furnished in Class B (80 C Rise) design at no extra cost.

G-E B-B TRANSFORMERS

For Boosting and Bucking Applications
For Indoor or Outdoor Service

Single-phase, 60 Cycles, Air-cooled
Primary 110/220—115/230—120/240 Volts
Secondary 11/22—11½/23—12/24 Volts

These transformers provide an economical and convenient means of boosting or bucking voltage on single-phase and three-phase circuits.

B-B transformers have a wide range of application, because both the primary and secondary windings are arranged for series-multiple connections. They may be connected as a transformer with the secondary supplying 11½ or 23 volts, 2-wire, or 23/11½ volts, 3-wire; also as an autotransformer to deliver 126½ or 138 volts from a 115-volt supply, or 241½ or 253 volts from a 230-volt supply. Two or more units may be used in various combinations to obtain many other special voltages.

One of the many special applications is pipe thawing. Two transformers are used, the primaries being connected in multiple and the secondaries in series to give 46 volts. This gives sufficient capacity for thawing pipes up to 2-inch diameter. The current can be controlled to some extent by looping the secondary cables. Send for Bulletin GEA-2059 for complete description.

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt, Lb
61G69	**$25.00**	.250	4 9/16	4 7/8 x 8 1/2	18
61G70	**35.00**	.500	4 9/16	4 7/8 x 10 3/8	26
61G71	**44.00**	.750	4 9/16	4 7/8 x 12 5/8	37
76G172	**53.00**	1	6 3/16	6 7/8 x 11 5/32	45
76G173	**66.00**	1.5	6 3/16	6 7/8 x 12 5/32	56
76G174	**79.00**	2	6 3/16	6 7/8 x 13 5/32	67
61G75	**106.00**	3	7 3/4	8 3/4 x 18 5/8	108
61G76	**155.00**	5	7 3/4	8 3/4 x 19 3/8	168

Similar units are available for most 50- and 25-cycle applications.

G-E TYPE M SERVICE TRANSFORMERS

To Supply or Insulate 115- or 230-volt Circuits

Single-phase, 50/60 Cycles, Air-cooled

For Indoor or Outdoor Service

For Oil-well, Mine, and Pump-house Service

These transformers are designed especially to be used at the end of long lines, such as are generally used to supply oil-well, mine, and pump-house service. Because of the wide voltage variation likely to be encountered at such locations, these transformers are designed to operate satisfactorily from 440 to 525 volts and may be used on either a 50- or 60-cycle circuit. The secondary voltages will vary accordingly. They are arranged to be connected directly into a conduit system and are supplied with ¾-inch pipe nipples and 12-inch leads as shown in illustration.

G-E TYPE M SERVICE TRANSFORMERS

For Oil-well, Mine, and Pump-house Service
Continued

Primary 440—525 Volts; Secondary 110—131 Volts

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt, Lb
61G189	**$27.00**	.100	4⅜	4⅞x 7 3/16	14
61G190	**30.00**	.250	4⅜	4⅞x 8 3/16	19
61G191	**41.00**	.500	4⅜	4⅞x10 7/16	29

G-E SERVICE TRANSFORMERS

To Supply or Insulate 115- or 230-volt Circuits

Single-phase, 60 Cycles, Air-cooled

TYPE M—FOR INDOOR OR OUTDOOR SERVICE FOR GENERAL LIGHT AND POWER SERVICE

These transformers are designed to reduce the voltage of 230-, 460-, or 575-volt power circuits to either 115 or 230 volts for supplying lights and other equipment. Some of the ratings are also suitable for insulating one circuit from another without change in voltage. In addition to the many single-phase applications, they can be used in banks on polyphase circuits.

The classification "service" is applied to transformers used to supply a standard utilization voltage from another standard utilization voltage.

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt, Lb
Primary 220-230-240 Volts Secondary 110-115-120 Volts					
71G18	**$7.08**	.025	2 5/16	2⅞x 5 1/16	3¼
71G19	**8.87**	.050	2 5/16	2⅞x 6	5
71G20	**10.05**	.075	3 7/16	3½x 5⅞	5¾
71G21	**10.82**	.100	3 7/16	3½x 6¼	7
71G22	**11.80**	.150	3 7/16	3½x 6⅞	8½
71G23	**12.35**	.200	3 7/16	3½x 7¾	11
61G5	**22.00**	.250	4 9/16	4⅞x 8⅜	17
61G6	**31.00**	.500	4 9/16	4⅞x10⅛	25
61G7	**39.00**	.750	4 9/16	4⅞x12¼	35
Primary 110/220-115/230-120/240 Volts Secondary 110/220-115/230-120/240 Volts					
76G108	**$50.00**	1	6 3/16	6⅞x11 15/32	45
76G109	**61.00**	1.5	6 3/16	6⅞x12 15/32	55
76G110	**74.00**	2	6 3/16	6⅞x13 17/32	67
61G11	**100.00**	3	7¾	8¾x18⅜	108
61G12	**145.00**	5	7¾	8¾x21 3/16	160
61G13	**200.00**	7.5	9⅞	11⅜x22½	265
61G14	**250.00**	10	9⅞	11⅜x25¼	340
*60G601	**348.00**	15	24½	13⅞x21½	425
Primary 440-460-480 Volts Secondary 110-115-120 Volts					
71G24	**$7.08**	.025	2 5/16	2⅞x 5 1/16	3¼
71G25	**8.87**	.050	2 5/16	2⅞x 6	5
71G26	**10.05**	.075	3 7/16	3½x 5⅞	5¾
71G27	**10.82**	.100	3 7/16	3½x 6¼	7
71G28	**11.80**	.150	3 7/16	3½x 6⅞	8½
71G29	**12.35**	.200	3 7/16	3½x 7¾	11
61G19	**22.00**	.250	4 9/16	4⅞x 8⅜	17
61G20	**31.00**	.500	4 9/16	4⅞x10⅛	25
61G21	**39.00**	.750	4 9/16	4⅞x12¼	35

* Type D—for indoor service only.

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt, Lb
Primary 220/440-230/460-240/480 Volts Secondary 110/220-115/230-120/240 Volts					
76G129	**$50.00**	1	6 3/16	6⅞x11 15/32	45
76G130	**61.00**	1.5	6 3/16	6⅞x12 15/32	55
76G131	**74.00**	2	6 3/16	6⅞x13 17/32	67
61G32	**100.00**	3	7¾	8¾x18⅜	108
61G33	**145.00**	5	7¾	8¾x22¼	160
61G34	**200.00**	7.5	9⅞	11⅜x22½	265
61G35	**250.00**	10	9⅞	11⅜x25¼	340
TYPE D—FOR INDOOR SERVICE ONLY Primary 220/440-230/460-240/480 Volts Secondary 110/220-115/230-120/240 Volts					
60G605	**$348.00**	15	24½	13⅞x21½	425
60G606	**536.00**	25	24½	15½x21½	565
60G607	**685.00**	37.5	29¼	17⅝x23¾	750
60G608	**825.00**	50	29¼	19½x23¾	890
TYPE M—FOR INDOOR OR OUTDOOR SERVICE Primary 550-575-600 Volts Secondary 110-115-120 Volts					
71G36	**$7.65**	.025	2 5/16	2⅞x 5 1/16	3¼
71G37	**9.57**	.050	2 5/16	2⅞x 6	5
71G38	**10.84**	.075	3 7/16	3½x 5⅞	5¾
71G39	**11.66**	.100	3 7/16	3½x 6¼	7
71G40	**12.71**	.150	3 7/16	3½x 6⅞	8½
71G41	**13.31**	.200	3 7/16	3½x 7¾	11
61G40	**24.00**	.250	4 9/16	4⅞x 8⅜	17
61G41	**33.00**	.500	4 9/16	4⅞x10⅛	25
61G42	**42.00**	.750	4 9/16	4⅞x12¼	35
TYPE M—FOR INDOOR OR OUTDOOR SERVICE Primary 550-575-600 Volts Secondary 110/220-115/230-120/240 Volts					
76G150	**$52.00**	1	6 3/16	6⅞x11 15/32	45
76G151	**64.00**	1.5	6 3/16	6⅞x12 15/32	53
76G152	**78.00**	2	6 3/16	6⅞x14 1/32	67
61G53	**104.00**	3	7¾	8¾x18⅜	108
61G54	**152.00**	5	7¾	8¾x21 3/16	160
61G55	**210.00**	7.5	9⅞	11⅜x22½	265
61G56	**262.00**	10	9⅞	11⅜x23⅞	340
*60G609	**364.00**	15	24½	13⅞x21½	425

Similar units are available for most 50- and 25-cycle applications.

NOTE: Class A (55 C Rise) units can be furnished in Class B (80 C Rise) design at no extra cost.

G-E TYPE M SERVICE AUTOTRANSFORMERS

To Supply 115- and 230-volt Circuits For Indoor or Outdoor Service For General Light and Power Service

Single-phase, 60 Cycles, Dry-type
Primary 220—230—240 Volts
Secondary 110—115—120 Volts—2-wire or 220/110—230/115—240/120 Volts—3-wire

Autotransformers are more economical and smaller than a transformer designed to carry the same load. Within their voltage limitations, they will perform the same function as service transformers, with the exception of insulating two circuits. They may be used to obtain 115 volts from a 230-volt circuit, to derive a neutral on a 230-volt, 2-wire circuit, or to balance a 115/230-volt, 3-wire circuit. They also may be used in banks on polyphase circuits.

In ordering autotransformers, care should be exercised so that the installation will meet local electrical inspectors' requirements.

G-E Type M Service Autotransformers for General Light and Power Service—Continued

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt, Lb
64G2	**$22.00**	.500	4 9/16	4 7/8 x 8 3/8	17
64G3	**27.00**	.750	4 9/16	4 7/8 x 9 5/8	23
64G4	**31.00**	1	4 9/16	4 7/8 x 10 5/8	27
65G5	**39.00**	1.5	6 3/16	6 7/8 x 10 13/32	39
65G6	**47.00**	2	6 3/16	6 7/8 x 11 5/32	47
65G7	**58.00**	3	6 3/16	6 7/8 x 12 21/32	60
64G8	**82.00**	5	7 3/4	8 3/4 x 18 1/4	103
64G9	**110.00**	7.5	7 3/4	8 3/4 x 20	127
64G10	**137.00**	10	9 7/8	11 3/8 x 20 1/4	205
64G11	**189.00**	15	9 7/8	11 3/8 x 22 1/2	255
77G592	**282.00**	25	9 7/8	11 3/8 x 27 1/2	390

G-E TYPE M DRY-TYPE TRANSFORMERS

For 32-volt Applications
For Indoor or Outdoor Service

Single-phase, 60 Cycles
Primary 110/220—115/230—120/240 Volts
Secondary 30.6—32—33.4 Volts

These transformers derive 32-volt circuits from 115- or 230-volt lighting or power circuits; 32-volt portable lamps and portable tools are frequently used in mines, steel plants, meat-packing plants, and in damp locations to prevent injury in case of accidental grounding of the circuit through the operator's body.

These transformers can also be used as autotransformers to boost or buck the voltage of circuits. When so connected, the approximate kva output of each transformer will equal the kva output listed below, multiplied by $\left(\frac{HV}{HV-LV}\right)$ (for boosting) or $\left(\frac{LV}{HV-LV}\right)$ (for bucking), and the kva output of a 3-phase bank will be three times that of each unit.

Note: As boosting auto-transformers, *HV* is output voltage while *LV* is input voltage. The opposite is true for bucking auto-transformers.

G-E Type M Dry-type Transformers For 32-volt Applications

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt Lb
61G59	**$24.00**	.250	4 9/16	4 7/8 x 8 1/2	17
61G60	**34.00**	.500	4 9/16	4 7/8 x 10 3/8	26
61G61	**43.00**	.750	4 9/16	4 7/8 x 12 5/8	36
76G162	**52.00**	1	6 3/16	6 7/8 x 11 5/32	45
76G163	**64.00**	1.5	6 3/16	6 7/8 x 12 5/32	56
76G164	**77.00**	2	6 3/16	6 7/8 x 13 17/32	67
61G65	**103.00**	3	7 3/4	8 3/4 x 18 9/16	108
61G66	**151.00**	5	7 3/4	8 3/4 x 21 1/2	158

Similar units are available for most 50- and 25-cycle applications.

G-E TRANSFORMERS AND AUTOTRANSFORMERS FOR PHASE CHANGING

Dry-type, 3- to 2-, or 2- to 3-phase, 60 Cycles

Type M—For Indoor or Outdoor Service
Type D—For Indoor Service Only

Phase-changing transformers and autotransformers are primarily of use when a phase change is made on a distribution system. They permit the economical use of motors and other polyphase equipment which would otherwise become obsolete.

The two lines of autotransformers are not interchangeable, and it is necessary to determine whether the 2-phase circuit is 3-wire or 4-wire in order to select the proper unit. These autotransformers cannot be used on a 4-wire circuit having the midpoints of the two phases connected. For this application, the 2-winding transformer is recommended, although especially designed autotransformers can be furnished.

Types M and D Transformers
3-phase—220-230-240 Volts
2-phase—220-230-240 Volts

Cat. No.	Price, Each	Kva Output, Cont, 55 C Rise	Depth, In.	Wall Space, Inches	Approx Ship. Wt, Lb
Type M Transformers, 3- to 2-phase, 3- or 4-wire					
61G77	**$76.00**	1	4 9/16	4 7/8 x 18 7/8	57
61G78	**141.00**	3	6 1/8	6 7/8 x 24 15/16	115
61G79	**188.00**	5	7 3/4	8 3/4 x 29 11/16	195
61G80	**246.00**	7.5	7 3/4	8 3/4 x 32 3/4	250
61G81	**303.00**	10	9 7/8	11 3/8 x 32 3/8	330
63G82	**411.00**	15	9 7/8	11 3/8 x 38 3/8	490
75G13*	**615.00**	25	9 7/8	11 3/8 x 28 1/4	820
Type D Transformers, 3- to 2-phase, 3- or 4-wire					
63G14	**$846.00**	37.5	†30	‡20x36	850
63G15	**1074.00**	50	†30	‡22x40	1050
§Type M Autotransformers, 3- to 2-phase, 4-wire					
64G43	**$40.00**	1	4 9/16	4 7/8 x 12 3/8	23
64G44	**64.00**	3	4 9/16	4 7/8 x 15 3/8	37
64G45	**79.00**	5	4 9/16	4 7/8 x 19 1/4	57
64G46	**97.00**	7.5	6 1/8	6 7/8 x 20 9/16	67
64G47	**113.00**	10	6 1/8	6 7/8 x 21 15/16	82
64G48	**144.00**	15	6 1/8	6 7/8 x 24 15/16	127
64G49	**194.00**	25	7 3/4	8 3/4 x 29 1/8	180
64G50	**258.00**	37.5	7 3/4	8 3/4 x 33 1/8	260
65G675	**316.00**	50	9 7/8	11 3/8 x 33 3/8	380
§Type M Autotransformers, 3- to 2-phase, 3-wire					
64G52	**$44.00**	1	4 9/16	4 7/8 x 12 7/8	25
64G53	**70.00**	3	4 9/16	4 7/8 x 16 7/8	45
64G54	**90.00**	5	6 1/8	6 7/8 x 19 13/16	58
64G55	**111.00**	7.5	6 1/8	6 7/8 x 22 1/16	83
64G56	**134.00**	10	6 1/8	6 7/8 x 23 1/16	100
64G57	**167.00**	15	7 3/4	8 3/4 x 27	140
64G58	**235.00**	25	7 3/4	8 3/4 x 31 3/16	200
64G59	**314.00**	37.5	9 7/8	11 3/8 x 32 1/8	320
65G676	**387.00**	50	9 7/8	11 3/8 x 35 3/8	415

* Separate main and teaser (weight per bank, dimensions per unit).
† Height. ‡ Floor space.
§ Care should be exercised in ordering autotransformers so that the installation will meet local electrical inspectors' requirements.

Wall Brackets for Type D Transformers
For mounting single-phase Type D transformers.

Wall Hanger, Cat. No.	Price, Each	For Transformer, Kva	Approx Ship. Wt, Lb
5097900G1	No charge	15	15 1/2
5097900G2	No charge	25	17
5097901G1	**$5.00**	37.5	26
5097901G2	**5.00**	50	27

Standard Conduit Outlets for Type D Transformers

Cat. No.	Price, Each	Conduit Size, In.	Dimensions, Inches	Approx Ship. Wt, Lb
8770002G1	**$2.00**	1 1/2	5 3/8 x 4 7/8 x 4 3/4	3 3/4
8770003G1	**2.00**	2	6 1/2 x 5 3/4 x 5 3/8	4 3/4

NOTE: Class A (55 C Rise) units can be furnished in Class B (80 C Rise) design at no extra cost.

G-E TYPES M AND D TRANSFORMERS EQUIPPED WITH TWO 5% RATED-KVA TAPS BELOW RATED PRIMARY VOLTAGE

For Boosting Low Voltages

APPLICATION

These transformers are provided with two 5 per cent taps below rated primary voltage and are particularly useful on old, inefficient electrical systems, overloaded systems, and at the end of long supply lines where the voltage is appreciably low. They are especially useful in lighting applications where undervoltage conditions prevail and where it is desirable to obtain 120 or 240 volts. All connections are made by means of cable leads which extend into the wiring compartment for either conduit or open wiring.

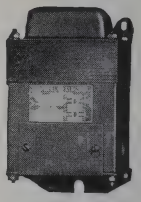


Fig. 1. Small Type M Transformer

PRIMARY 480 SECONDARY 120/240 SINGLE-PHASE 60 CYCLES

Type	Cat. No.	List Price, Each	Kva Output Cont 55 C Rise	Depth, Inches	Wall Space, Inches	Approx Ship. Wt, Lb	Fig. No.
M	76G829	**$50.00**	1	6 1/8	6 3/4 x 11 1/8	45	1
	76G830	**61.00**	1.5	6 1/8	6 3/4 x 12 5/16	58	1
	76G831	**74.00**	2	6 1/8	6 3/4 x 13 11/16	70	1
	76G832	**100.00**	3	7 11/16	8 3/4 x 18 5/8	115	2
	76G833	**145.00**	5	7 11/16	8 3/4 x 21 3/16	160	2
	76G834	**200.00**	7.5	9 7/8	11 3/8 x 22 1/2	265	3
	76G835	**250.00**	10	9 7/8	11 3/8 x 25 1/4	340	3
D	90G805	**348.00**	15	13 3/4	20 9/16 x 24 1/2	435	4
	90G806	**536.00**	25	16	20 9/16 x 24 1/2	585	4
	90G807	**685.00**	37.5	17	22 3/4 x 27 3/4	760	4
	90G808	**825.00**	50	19 1/4	22 3/4 x 27 3/4	900	4

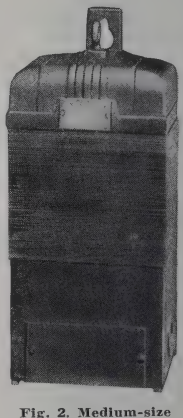


Fig. 2. Medium-size Type M Transformer

PRIMARY 600 SECONDARY 120/240 SINGLE-PHASE 60 CYCLES

Type	Cat. No.	List Price, Each	Kva Output Cont 55 C Rise	Depth, Inches	Wall Space, Inches	Approx Ship. Wt, Lb	Fig. No.
M	88G829	**$54.00**	1	6 1/8	6 3/4 x 11 1/8	45	1
	88G830	**67.00**	1.5	6 1/8	6 3/4 x 12 5/16	58	1
	88G831	**81.00**	2	6 1/8	6 3/4 x 13 11/16	70	1
	88G832	**108.00**	3	7 11/16	8 3/4 x 18 5/8	115	2
	88G833	**158.00**	5	7 11/16	8 3/4 x 21 3/16	160	2
	88G834	**217.00**	7.5	9 7/8	11 3/8 x 22 1/2	265	3
	88G835	**271.00**	10	9 7/8	11 3/8 x 25 1/4	340	3
D	90G905	**377.00**	15	13 3/4	20 9/16 x 24 1/2	435	4
	90G906	**582.00**	25	16	20 9/16 x 24 1/2	585	4
	90G907	**743.00**	37.5	17	22 3/4 x 27 3/4	760	4
	90G908	**895.00**	50	19 1/4	22 3/4 x 27 3/4	900	4

Note: Type D transformers can be wall-mounted by the use of wall hangers. The weights given above do not include these hangers.

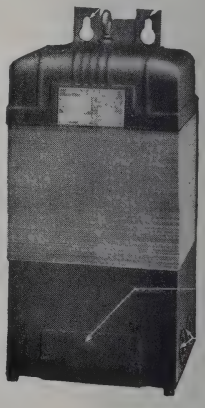


Fig. 3. Large-size Type M Transformer

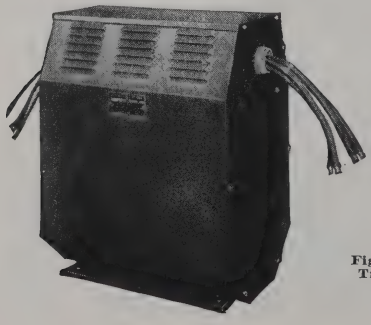


Fig. 4. Type D Transformer

G-E CONTROL AND SIGNAL TRANSFORMERS

High-reactance Type

HIGH-REACTANCE TRANSFORMERS

For Use with Annunciator Wiring

G-E high-reactance transformers are designed to meet the bell-ringing transformer requirements of the Underwriters' Laboratories. They are so designed that annunciator wiring can be used in the low-voltage circuits, in accordance with National Electrical Code requirements.

HOW TO SELECT THE RIGHT TRANSFORMER

EXAMPLE—To select the right transformer to operate a small relay which requires a pick-up current of 1.75 amperes at 18 volts. We simply refer to the 18-volt column in the table of volt-ampere characteristics, and find that to supply 1.75 amperes, a .035-kva transformer is required, as the next smaller transformer will supply only 1.5 amperes. We do not have to consider temperature rise, since these high-reactance transformers are designed to withstand continuous short circuit on the secondary without overheating.

VOLT-AMPERE CHARACTERISTICS

Rated Kva	Secondary Load—Volts							
	0	12	14	16	18	20	22	25
	Secondary Load—Amperes							
.015	1.5	1.1	1.0	.90	.75	.55	.30	0
.020	2.0	1.5	1.35	1.2	1.0	.75	.45	0
.025	3.0	2.3	2.0	1.8	1.5	1.1	.6	0
.035	4.0	3.0	2.7	2.35	2.0	1.5	.9	0
.040	5.0	3.8	3.4	3.0	2.6	1.9	1.1	0
.045	6.0	4.5	4.1	3.6	3.1	2.3	1.3	0

Note.—The above values correspond to a unity-power-factor load. For lagging power factor, the regulation increases with a decrease in power factor However, these characteristics will serve as a guide to select the right transformer to operate a device; actual tests on transformer and device together will definitely check this selection.

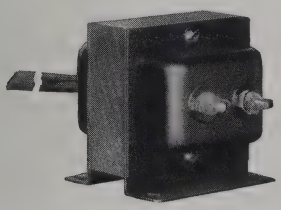


Fig. 1

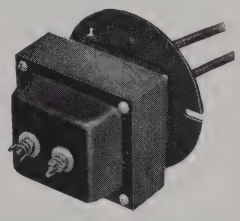


Fig. 2

PRICES AND DATA

60 CYCLES

Voltage Rating		Kva Output Cont 55 C Rise	Cat. No.	List Price, Each	Approx Wt, Lb		Approx Dimensions, Inches				Illustration Fig.
Primary	Secondary				Net	Ship.	Width	Depth	Length	Mounting	
High-reactance Transformers with Mounting Feet											
115	25	.015	72G11	**$7.55**	2¼	3	2⅞	2 13/16	3 5/16	2¼ by 1¾	1
		.020	72G12	**8.25**	2½	3¼	2⅞	2 13/16	3 5/16	2¼ by 2	
		.025	72G13	**9.40**	3½	4¼	2⅞	2 13/16	4 1/16	2¾ by 2½	
		.035	72G14	**10.35**	4½	5½	3½	3 5/16	3 13/16	2⅞ by 2	
		.040	72G15	**11.00**	6	7	3½	3 5/16	4 5/16	2⅞ by 2½	
		.045	72G16	**11.40**	7¼	8¼	3½	3 5/16	4 5/16	2⅞ by 2¾	
High-reactance Transformers with Conduit-plate Mounting											
115	25	.015	72G1	**$9.05**	2¼	3	4 3/16	4 5/16	3¼	3½	2
		.020	72G2	**9.75**	2½	3¼	4 3/16	4 5/16	3½	3½	
		.025	72G3	**10.90**	3½	4¼	4 3/16	4 5/16	4	3½	
		.035	72G4	**11.85**	4½	5½	4 3/16	4 5/16	3¾	3½	
		.040	72G5	**12.50**	6	7	4 3/16	4 5/16	4¼	3½	
		.045	72G6	**12.90**	7¼	8¼	4 3/16	4 5/16	4½	3½	

G-E CONTROL AND SIGNAL TRANSFORMERS

Normal-reactance Type

NORMAL-REACTANCE TRANSFORMERS

For Use with Standard Code Wiring

G-E normal-reactance transformers are designed to meet the miscellaneous and general-purpose transformer requirements of the Underwriters' Laboratories. Standard code wiring must be used in the low-voltage circuits in accordance with National Electrical Code requirements.

HOW TO SELECT THE RIGHT TRANSFORMER

To select the right transformer, first determine the nearest standard rating, and then check load requirements by using regulation under rated load conditions, provided in the bulletin listing. If power output is found satisfactory, check heating requirements.

EXAMPLE: To select the right transformer to operate a load which requires 7 amperes inrush current at 18 volts and a steady load current of 3.5 amperes at the same voltage, operating on a duty cycle of two minutes on and four minutes off, and with maximum temperature rise not to exceed 55 C (standard in the industry), proceed as follows:

1. Determine inrush load. $7 \times 18 = 126$ volt-amperes.
2. Determine steady load. $3.5 \times 18 = 63$ volt-amperes.
3. Select 50 volt-ampere (0.050 kva), 24-volt-secondary transformer, Cat. No 71G85 (see table, following page), as the lowest standard rating which may meet the requirements.
4. Compute the rated secondary current. $\frac{50 \text{ va}}{24 \text{ v}} =$ 2.08 amperes.
5. Determine voltage drop at full load (2.08 amperes), using the load voltage and per cent regulation. (9.2 per cent for Cat. No. 71G85—see table.)
   $24 \text{ v} \times 1.092 = 26.2 \text{ v}$ (open circuit voltage)
   $26.2 \text{ v} - 24 \text{ v} = 2.2 \text{ v}$ (voltage drop at full load)
6. Determine voltage drop for new load of 7 amperes inrush current.
   $\frac{7}{2.08} \times 2.2 \text{ v} = 7.4$ volts
   $26.2 \text{ v} - 7.4 \text{ v} = 18.8 \text{ v} =$ new load voltage.
7. This satisfies the requirement of 18 volts established in the example. The steady load of 3.5 amperes will, of course, be satisfactory. We can check the steady load condition using the above method.
   $\frac{3.5}{2.08} \times 2.2 \text{ v} = 3.7 \text{ v}$.
   The corresponding load voltage will be
   $26.2 \text{ v} - 3.7 \text{ v} = 22.5 \text{ v}$.

ALLOWABLE LOAD ON INTERMITTENT OPERATION

Normal-reactance Transformers

Per Cent Continuous Rated Load Current	Maximum Allowable Ratio of Time On to Time Off	Maximum Allowable Time On—Minutes
110	10	100
120	3.5	30
135	1.4	10
150	0.8	6.0
175	0.4	3.0
200	0.28	2.1
225	0.2	1.6
250	0.15	1.3
275	0.125	1.15
300	0.1	1.0
350	0.075	0.8
400	0.06	0.75
500	0.04	0.7

8. The above calculations indicate that Cat. No. 71G85 has sufficient output to handle the required load. It is necessary, however, to check the heating under these load conditions. For this purpose, use the table "Allowable Load on Intermittent Operation."
9. In this case the ratio of "Time-On" to "Time-Off" equals 0.5. By interpolating from the table, it can be seen that continuous current of 168 per cent full-load current is the maximum permissible. Since the inrush current is $\frac{7}{2.08} \times 100$ or 336 per cent of full-load current and the steady current is 168 per cent of full-load current, Cat. No. 71G85 will not carry the over-all load without exceeding 55 C temprature rise, though it is so nearly the right rating that it might be safely used.
10. Select the 75-volt-ampere rating, Cat. No. 71G86, and repeat all checks made for 71G85, as well as a check for "Maximum Allowable Time-On." It will be found that Cat. No. 71G86 meets all requirements.

NOTE: The above method of selection is not applicable to high-reactance transformers.

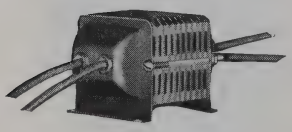


Fig. 3

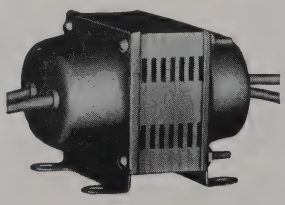


Fig. 4

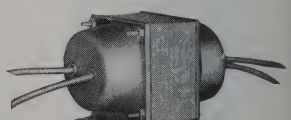


Fig. 5

G-E CONTROL AND SIGNAL TRANSFORMERS—Normal-reactance Type

PRICES AND DATA, 60 CYCLES

Voltage Rating		Kva Output, Cont, 55 C Rise	Cat. No.	List Price, Each	Approx Wt, Lb		Approx Dimensions, Inches				Per Cent Regulation at 1.0 P F	Illustration, Fig.
Primary	Secondary				Net	Ship.	Width	Depth	Length	Mounting		
Normal-reactance Transformers—For Control and Lighting												
115	6	.0075	71G70	**$5.40**	1	1½	2 11/32	2¼	2 3/16	1 15/16 by 1 3/16	22.4	3
		.010	71G71	**5.40**	1¼	1¾	2 11/32	2¼	2 5/16	1 15/16 by 1 5/16	20.2	
		.015	71G72	**6.15**	1½	2	2 11/32	2¼	2 25/32	1 15/16 by 1¾	16.7	
		.025	71G73	**7.44**	2	3	3	2 7/8	3 3/8	2¼ by 1 15/16	15.2	4
		.035	71G74	**8.24**	2½	3½	3	2 7/8	3 5/16	2¼ by 2 5/16	12.7	
		.050	71G75	**9.31**	3½	4½	3	2 7/8	4¼	2¼ by 2 13/16	12.7	
		.075	71G76	**10.54**	4½	5½	3 5/8	3 3/8	3 15/16	2 7/8 by 2¼	9.7	
		.100	71G77	**11.34**	5½	6½	3 5/8	3 3/8	4 5/16	2 7/8 by 2 5/8	7.8	
		.150	71G78	**12.36**	7	8	3 5/8	3 3/8	4 13/16	2 7/8 by 3 1/16	8.5	
		.200	71G79	**12.95**	8	10	3 5/8	3 3/8	5 5/16	2 7/8 by 3½	8.4	
115	24	.0075	71G80	**5.40**	1	1½	2 11/32	2¼	2 3/16	1 15/16 by 1 3/16	21.2	4
		.010	71G81	**5.40**	1¼	1¾	2 11/32	2¼	2 5/16	1 15/16 by 1 5/16	20.4	
		.015	71G82	**6.15**	1½	2	2 11/32	2¼	2 25/32	1 15/16 by 1¾	16.7	
		.025	71G83	**7.44**	2	3	3	2 7/8	3 3/8	2¼ by 1 15/16	14.2	
		.035	71G84	**8.24**	2½	3½	3	2 7/8	3 5/16	2¼ by 2 5/16	12.1	
		.050	71G85	**9.31**	3½	4½	3	2 7/8	4¼	2¼ by 2 13/16	9.2	5
		.075	71G86	**10.54**	4½	5½	3 5/8	3 3/8	3 15/16	2 7/8 by 2¼	9.2	
		.100	71G87	**11.34**	5½	6½	3 5/8	3 3/8	4 5/16	2 7/8 by 2 5/8	7.8	
		.150	71G88	**12.36**	7	8	3 5/8	3 3/8	4 13/16	2 7/8 by 3 1/16	6.7	
		.200	71G89	**12.95**	8	10	3 5/8	3 3/8	5 5/16	2 7/8 by 3½	6.3	
115	32	.0075	71G90	**5.40**	1	1½	2 11/32	2¼	2 3/16	1 15/16 by 1 3/16	21.2	3
		.010	71G91	**5.40**	1¼	1¾	2 11/32	2¼	2 5/16	1 15/16 by 1 5/16	20.4	
		.015	71G92	**6.15**	1½	2	2 11/32	2¼	2 25/32	1 15/16 by 1¾	16.7	
		.025	71G93	**7.44**	2	3	3	2 7/8	3 3/8	2¼ by 1 15/16	14.2	
		.035	71G94	**8.24**	2½	3½	3	2 7/8	3 5/16	2¼ by 2 5/16	12.1	4
		.050	71G95	**9.31**	3½	4½	3	2 7/8	4¼	2¼ by 2 13/16	9.2	5
		.075	71G96	**10.54**	4½	5½	3 5/8	3 3/8	3 15/16	2 7/8 by 2¼	9.2	
		.100	71G97	**11.34**	5½	6½	3 5/8	3 3/8	4 5/16	2 7/8 by 2 5/8	7.8	
		.150	71G98	**12.36**	7	8	3 5/8	3 3/8	4 13/16	2 7/8 by 3 1/16	6.7	
		.200	71G99	**12.95**	8	10	3 5/8	3 3/8	5 5/16	2 7/8 by 3½	6.3	
Warp-stop Transformers												
115	12	.025	72G987	**$7.81**	2¼	3	2 7/8	2 25/32	3 13/32	1 15/16 by 2 3/4	11.7	9
230	12	.025	72G988	**7.81**	2¼	3	2 7/8	2 25/32	3 13/32	1 15/16 by 2 3/8	11.7	
460	12	.025	72G989	**7.81**	2¼	3	2 7/8	2 25/32	3 13/32	1 15/16 by 2 3/8	11.7	
575	12	.025	72G990	**8.46**	2¼	3	2 7/8	2 25/32	3 13/32	1 15/16 by 2 3/8	11.7	
Normal-reactance Transformers—Service-voltage Ratings—with Wiring Compartment												
230	115	.025	71G18	**$7.08**	2½	3½	2 7/8	2 15/16	5 1/8	2¼ by 4 3/8	14	6
		.050	71G19	**8.87**	4	5	2 7/8	2 15/16	6 1/16	2¼ by 5 5/16	10	
460	115	.025	71G24	**7.08**	2½	3½	2 7/8	2 15/16	5 1/8	2¼ by 4 3/8	14	
		.050	71G25	**8.87**	4	5	2 7/8	2 15/16	6 1/16	2¼ by 5 5/16	10	
460	230	.025	71G30	**7.08**	2½	3½	2 7/8	2 15/16	5 1/8	2¼ by 4 3/8	14	
		.050	71G31	**8.87**	4	5	2 7/8	2 15/16	6 1/16	2¼ by 5 5/16	10	
575	115	.025	71G36	**7.65**	2½	3½	2 7/8	2 15/16	5 1/8	2¼ by 4 3/8	14	
		.050	71G37	**9.57**	4	5	2 7/8	2 15/16	6 1/16	2¼ by 5 5/16	10	
575	230	.025	71G42	**7.65**	2½	3½	2 7/8	2 15/16	5 1/8	2¼ by 4 3/8	14	
		.050	71G43	**9.57**	4	5	2 7/8	2 15/16	6 1/16	2¼ by 5 5/16	10	
Normal-reactance Transformers—Service-voltage Ratings—with Slip-off Covers												
230	115	.075	71G20	**$10.05**	5	6	3 9/16	3 5/16	5 7/8	2 7/8 by 5 1/16	9.6	7
		.100	71G21	**10.82**	5¾	6¾	3 9/16	3 5/16	6 1/4	2 7/8 by 5 7/16	7.8	
		.150	71G22	**11.80**	7½	8½	3 9/16	3 5/16	6 7/8	2 7/8 by 6 1/16	6.4	
		.200	71G23	**12.35**	9½	10½	3 9/16	3 5/16	7¾	2 7/8 by 6 15/16	5.7	
460	115	.075	71G26	**10.05**	5	6	3 9/16	3 5/16	5 7/8	2 7/8 by 5 1/16	9.6	
		.100	71G27	**10.82**	5¾	6¾	3 9/16	3 5/16	6 1/4	2 7/8 by 5 7/16	7.8	
		.150	71G28	**11.80**	7½	8½	3 9/16	3 5/16	6 7/8	2 7/8 by 6 1/16	6.4	
		.200	71G29	**12.35**	9½	10½	3 9/16	4 5/16	7¾	2 7/8 by 6 15/16	5.7	
460	230	.075	71G32	**10.05**	5	6	3 9/16	3 5/16	5 7/8	2 7/8 by 5 1/16	9.6	
		.100	71G33	**10.82**	5¾	6¾	3 9/16	3 5/16	6 1/4	2 7/8 by 5 7/16	7.8	
		.150	71G34	**11.80**	7½	8½	3 9/16	3 5/16	6 7/8	2 7/8 by 6 1/16	6.4	
		.200	71G35	**12.35**	9½	10½	3 9/16	3 5/16	7¾	2 7/8 by 6 15/16	5.7	
575	115	.075	71G38	**10.84**	5	6	3 9/16	3 5/16	5 7/8	2 7/8 by 5 1/16	9.6	
		.100	71G39	**11.66**	5¾	6¾	3 9/16	3 5/16	6 1/4	2 7/8 by 5 7/16	7.8	
		.150	71G40	**12.71**	7½	8½	3 9/16	3 5/16	6 7/8	2 7/8 by 6 1/16	6.4	
		.200	71G41	**13.31**	9½	10½	3 9/16	3 5/16	7¾	2 7/8 by 6 15/16	5.7	
575	230	.075	71G44	**10.84**	5	6	3 9/16	3 5/16	5 7/8	2 7/8 by 5 1/16	9.6	
		.100	71G45	**11.66**	5¾	6¾	3 9/16	3 5/16	6 1/4	2 7/8 by 5 7/16	7.8	
		.150	71G46	**12.71**	7½	8½	3 9/16	3 5/16	6 7/8	2 7/8 by 6 1/16	6.4	
		.200	71G47	**13.31**	9½	10½	3 9/16	3 5/16	7¾	2 7/8 by 6 15/16	5.7	

G-E CONTROL AND SIGNAL TRANSFORMERS

Normal-reactance Type

Voltage Rating		Kva Output, Cont, 55 C Rise	Cat. No.	List Price, Each	Approx Wt, Lb		Approx Dimensions, Inches				Per Cent Regulation at 1.0 P F	Illustration, Fig
Primary	Secondary				Net	Ship.	Width	Depth	Length	Mounting		
Normal-reactance Transformers with Circuit Breaker												
460	115	.050	74G400	**$13.20**	4¼	5¼	3⅝	3⅜	3⅜	2⅞ by 2⅝	9.5	8
		.075	74G401	**14.35**	4¾	5¾	3⅝	3⅜	4 1/16	2⅞ by 2¾	9.0	
		.100	74G402	**15.10**	6	7½	3⅝	3⅜	4 1/16	2⅞ by 3⅛	7.8	
		.150	74G403	**16.05**	8	9½	3⅝	3⅜	5 1/16	2⅞ by 3¾	6.4	
		.200	74G404	**16.60**	10	12	3⅝	3⅜	6 1/16	2⅞ by 4⅜	5.7	
Normal-reactance Transformers—Service-voltage Ratings—For Open Wiring Only												
230	115	.025	71G318	**$6.95**	2¼	3	3	2⅞	3 5/16	2 1/16 by 2¼	14.0	9
		.050	71G319	**8.70**	3½	4¾	3	2⅞	4¼	3 by 2¼	10.0	
		.075	71G320	**9.85**	4½	5½	3⅝	3⅜	3¾	2¼ by 2⅞	9.6	
		.100	71G321	**10.60**	5¾	6¾	3⅝	3⅜	4⅛	2⅝ by 2⅞	7.8	
		.150	71G322	**11.55**	7	8¼	3⅝	3⅜	4¾	3¼ by 2⅞	6.4	
		.200	71G323	**12.10**	9¼	10¾	3⅝	3⅜	5⅝	4⅛ by 2⅞	5.7	
460	115	.025	71G324	**6.95**	2¼	3	3	2⅞	3 5/16	2 1/16 by 2¼	14.0	
		.050	71G325	**8.70**	3¾	4¾	3	2⅞	4¼	3 by 2¼	10.0	
		.075	71G326	**9.85**	4½	5½	3⅝	3⅜	3¾	2¼ by 2⅞	9.6	
		.100	71G327	**10.60**	5¾	6¾	3⅝	3⅜	4⅛	2⅝ by 2⅞	7.8	
		.150	71G328	**11.55**	7	8¼	3⅝	3⅜	4¾	3¼ by 2⅞	6.4	
		.200	71G329	**12.10**	9¼	10¾	3⅝	3⅜	5⅝	4⅛ by 2⅞	5.7	
460	230	.025	71G330	**6.95**	2¼	3	3	2⅞	3 5/16	2 1/16 by 2¼	14.0	
		.050	71G331	**8.70**	3¾	4¾	3	2⅞	4¼	3 by 2¼	10.0	
		.075	71G332	**9.85**	4½	5½	3⅝	3⅜	3¾	2¼ by 2⅞	9.6	
		.100	71G333	**10.60**	5¾	6¾	3⅝	3⅜	4⅛	2⅝ by 2⅞	7.8	
		.150	71G334	**11.55**	7	8¼	3⅝	3⅜	4¾	3¼ by 2⅞	6.4	
		.200	71G335	**12.10**	9¼	10¾	3⅝	3⅜	5⅝	4⅛ by 2⅞	5.7	
575	115	.025	71G336	**7.50**	2¼	3	3	2⅞	3 5/16	2 1/16 by 2¼	14.0	
		.050	71G337	**9.40**	3¾	4¾	3	2⅞	4¼	3 by 2¼	10.0	
		.075	71G338	**10.65**	4½	5½	3⅝	3⅜	3¾	2¼ by 2⅞	9.6	
		.100	71G339	**11.45**	5¾	6¾	3⅝	3⅜	4⅛	2⅝ by 2⅞	7.8	
		.150	71G340	**12.50**	7	8¼	3⅝	3⅜	4¾	3¼ by 2⅞	6.4	
		.200	71G341	**13.10**	9¼	10¾	3⅝	3⅜	5⅝	4⅛ by 2⅞	5.7	
575	230	.025	71G342	**7.50**	2¼	3	3	2⅞	3 5/16	2 1/16 by 2¼	14.0	
		.050	71G343	**9.40**	3¾	4¾	3	2⅞	4¼	3 by 2¼	10.0	
		.075	71G344	**10.65**	4½	5½	3⅝	3⅜	4¾	2¼ by 2⅞	9.6	
		.100	71G345	**11.45**	5¾	6¾	3⅝	3⅜	4⅛	2⅝ by 2⅞	7.8	
		.150	71G346	**12.50**	7	8¼	3⅝	3⅜	4¾	3¼ by 2⅞	6.4	
		.200	71G347	**13.10**	9¼	10¾	3⅝	3⅜	5⅝	4⅛ by 2⅞	5.7	

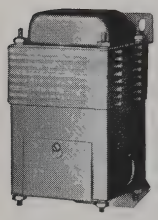


Fig. 6

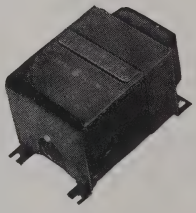


Fig. 7

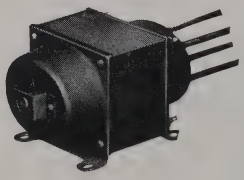


Fig. 8

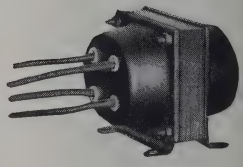


Fig. 9

G-E MACHINE-TOOL TRANSFORMERS

Standardized line of transformers designed to cover practically all machine-tool applications, including domestic and most foreign applications.

In addition to the desirable features shown below these transformers offer savings on:

Installation time and cost.
Panel space.
Actual cost of separate terminal board, circuit protection, and extra wiring.
Costly inventories and storage space.

PRICE AND DATA

Kva	Secondary Volts	Cat. No.	List Price, Each	Approx Wt in Lb		Approx Dimensions in Inches					Illustration, Fig.
						Over-all			Mounting		
				Net	Ship.	Length	Width	Depth			
60 Cycles—For 220- and 400-volt Circuits											
0.075	110	84G500	**$23.00**	5½	6½	6 1/16	3 11/16	3½	2¾	2⅞	2
.150	110	84G501	**27.00**	6¾	7¾	7 1/16	3 11/16	3½	3¾	2⅞	2
.250	110	79G502	**37.00**	13	17	6 7/16	4 15/16	6⅛	3¼	3⅛	3
.350	110	79G503	**41.00**	16	20	7 3/16	4 15/16	6⅛	4	3⅛	3
.500	110	79G504	**46.00**	20	25	7 15/16	4 15/16	6⅛	4¾	3⅛	3
.750	110	79G505	**54.00**	33	38	10 11/16	4 15/16	6⅛	7½	3⅛	3
1.000	110	79G506	**61.00**	39	44	8 15/16	6 15/16	7 11/16	5¼	4½	3
1.500	110	79G507	**71.00**	47	53	9 11/16	6 15/16	7 11/16	6⅛	4½	3
2.000	110	79G508	**81.00**	54	60	10 11/16	6 15/16	7 11/16	7⅛	4½	3
3.000	110	79G509	**108.00**	80	90	10 1/16	8 11/16	9 9/16	6¾	6¼	3
25 Cycles—For 220-, 440-, and 500-volt Circuits											
0.150	110	79G521	**$45.00**	18	22½	7 3/16	4 15/16	6⅛	4⅜	3⅛	3
.250	110	79G522	**55.00**	25	30	9 3/16	4 15/16	6⅛	6	3⅞	3
.350	110	79G523	**64.00**	33	38	10 3/16	4 15/16	6⅛	7¾	3⅛	3
.500	110	79G524	**75.00**	40	45	9 1/16	6 15/16	7 11/16	5½	4½	3
With Multi-tap Primary—50/60 Cycles for 208-, 220-, 380-, 400-, 416-, 440-, 500-, and 550-volt Circuits											
0.150	110/92	84G511	**$49.00**	8¾	10¾	8¾	3 11/16	3½	4⅜	2⅞	4
.250	110/92	79G512	**56.00**	15	17	8 3/8	4 15/16	6⅛	4	3⅛	1
.350	110/92	79G513	**60.00**	20	25	8 3/8	4 15/16	6⅛	5⅛	3⅛	1
.500	110/92	79G514	**65.00**	30	35	9 3/8	4 15/16	6⅛	6	3⅛	1
.750	110/92	79G515	**72.00**	45	50	10 7/16	6 15/16	7¾	5⅜	4½	1
1.000	110/92	79G916	**82.00**	53	60	10 9/16	6 15/16	8 3/8	6	4½	1
1.500	110/92	79G917	**95.00**	64	72	12½	6 15/16	7¾	7½	4½	1
2.000	110/92	79G918	**109.00**	80	90	11¼	8 11/16	9½	6½	6¼	1
3.000	110/92	79G919	**135.00**	95	107	12⅝	8 11/16	9½	7⅞	6¼	1

Diagrammatic Nameplate which contains complete identification and a durably printed wiring diagram. Errors in connections are avoided, for each terminal is numbered and is correspondingly identified on the nameplate diagram.

Front-mounted Terminal Board of molded plastic makes wiring easy — a screw driver is the only tool needed to make solid connections which are effectively separated by rugged terminal barriers. There is no need for cable splicing or soldered connections.

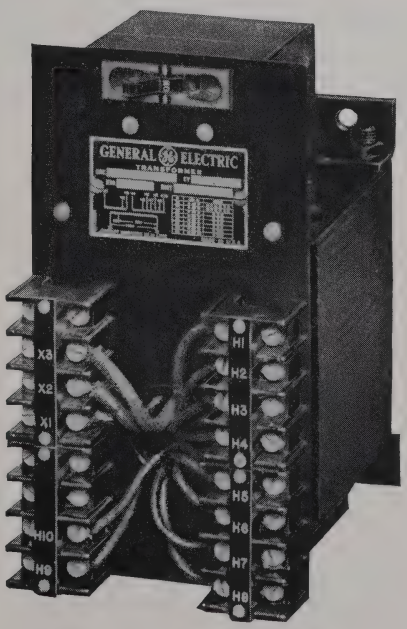


Fig. 1

Built-in Overload Protector with time-delay action prevents damage to the transformer under sustained overload or accidental short-circuit conditions.

Four Mounting Holes, positioned for easy accessibility, provide rapid and secure mounting.

Exposed Core provides ample surface for efficient heat dissipation. Compact design featuring built-in auxiliaries saves space, improves appearance of panel.

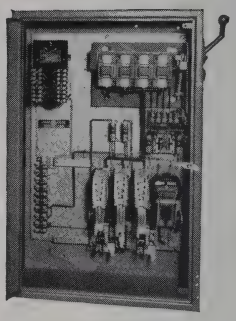
G-E MACHINE-TOOL TRANSFORMERS

A COMPLETE LINE TO MEET PRACTICALLY ALL APPLICATIONS

Ten ratings ranging in size from 0.075 to 3 kva for use on 60-cycle circuits are provided to meet a large part of the domestic machine-tool transformer requirements. They may be used on either 220 or 440 volts.

For 25-cycle applications, these transformers are listed in four standard sizes ranging from 0.150 to 0.500 kva. These units have primary voltage taps for 220, 400, and 550 volts.

To complete the line, an all-purpose group of transformers rated for both 50- and 60-cycle supply circuits is provided. The primary is equipped with eight voltage taps ranging from 208 to 550 volts. They have standard 110-volt secondaries with 92-volt taps for operation of 60-cycle relays on 50-cycle circuits. These versatile units will reduce stocking problems and meet requirements of most foreign, as well as unusual domestic, applications.



Typical control panel equipped with a G-E machine-tool transformer

FUNCTIONAL, COMPACT DESIGN

The functional, compact design of these transformers makes for convenient control panel mounting. Built-in auxiliaries save space. The dignified, sturdy appearance of these units is in accord with the industry trend toward neater, more efficient panel board arrangement.

GOOD VOLTAGE REGULATION

A very important consideration in the selection of a machine-tool transformer is voltage regulation under the heavy, momentary overloads to which these transformers are subjected in many applications. The regulation characteristics of these transformers were worked out with careful consideration of the size and weight factors. Complete regulation curves up to 500 per cent overload are shown on the accompanying chart. These curves are shown to assist in selecting a transformer of the proper rating for given applications. Voltage values over this wide range of loading are useful in checking for necessary holding voltage for relay operation and other applications where momentary overloading is encountered. *Publication of output voltages, at higher than rated load does not, of course, imply satisfactory use of these transformers under any steady-state overload condition.*

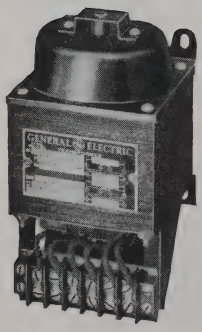


Fig. 2

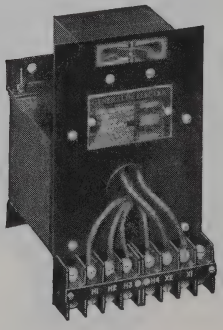


Fig. 3

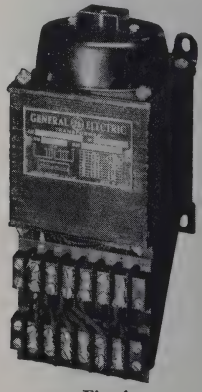
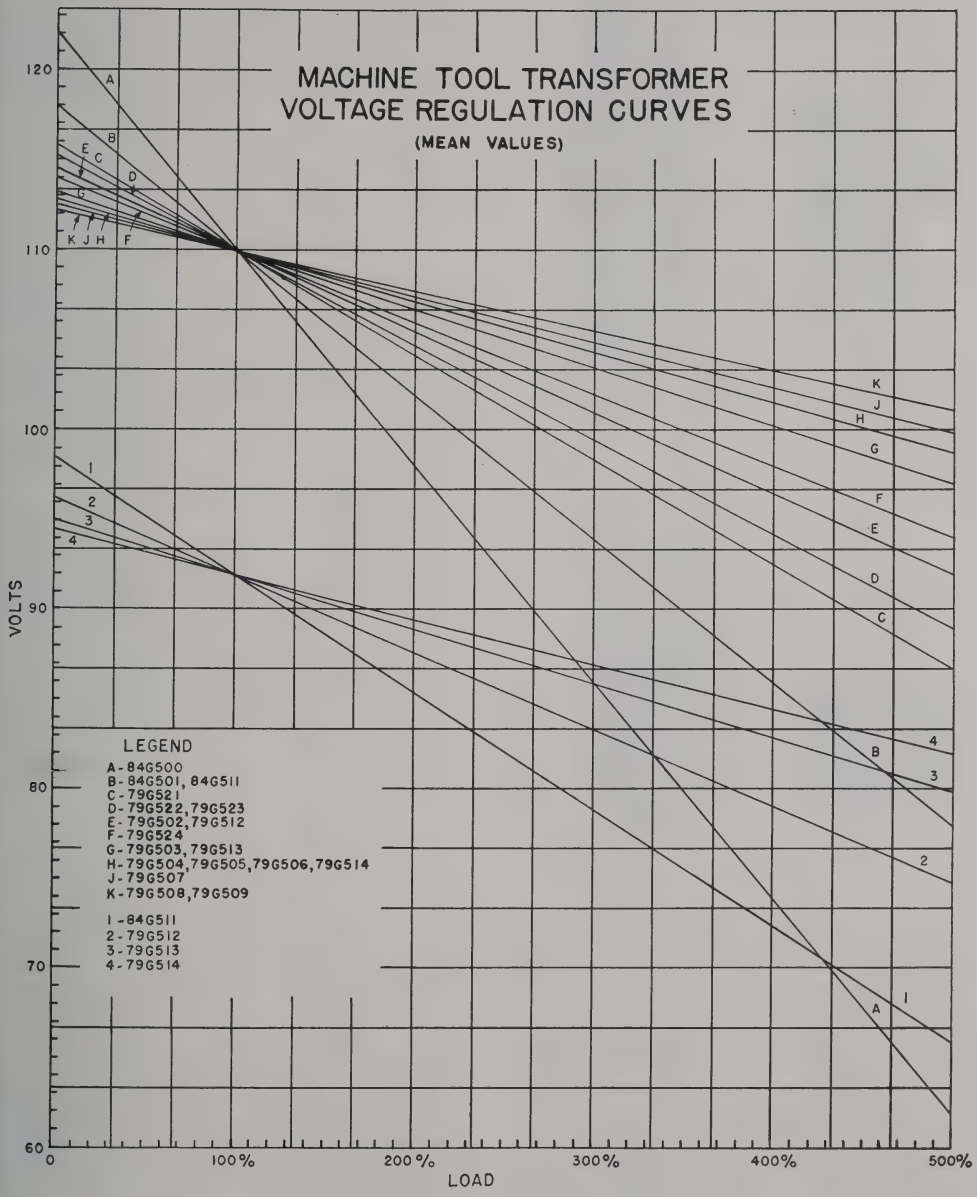


Fig. 4

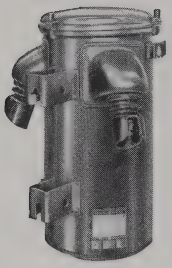
G-E MACHINE-TOOL TRANSFORMERS



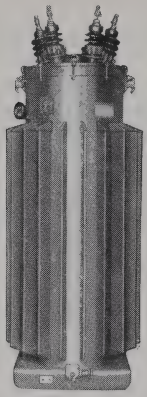
Voltage-regulation curves for use in selecting proper transformer for a given application

G-E TYPE HS OIL-IMMERSED DISTRIBUTION TRANSFORMERS

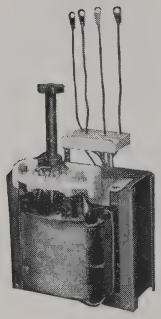
SINGLE-PHASE, 60 CYCLES, SELF-COOLED



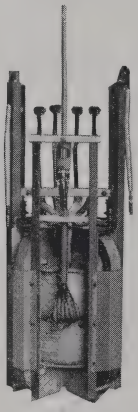
Small distribution transformer with low-voltage tank-wall bushings



Large distribution transformer with cooling tubes and high-voltage cover bushings



Interior assembly of small Spirakore transformer



Typical interior assembly of larger Spirakore transformer

The G-E Type HS distribution transformer offers the highest degree of service reliability, backed by careful attention to all details of manufacture, including the selection and preparation of the raw materials used, the adoption of the most progressive manufacturing processes, and the constant improvement of transformer design.

Among the most recent of these improvements is the wound-core construction, identified by the G-E trade-mark Spirakore.

This new design, now furnished on all sizes, results in higher efficiency at heavy loads, better voltage regulation at higher power factors, low exciting current, smaller size, and lighter weight.

The tanks are of all-welded steel with fins, corrugations, or cooling tubes in the larger sizes to provide ample radiating surface for the dissipation of heat. Each tank is given two coats of specially selected melamine Glyptal* paint, and oven-dried, resulting in an attractive and durable finish. For complete information, ask for Bulletin GEA-4885.

*Registered trade-mark of General Electric Co.

FOR 480- OR 600-VOLT CIRCUITS

Application.—By connection of the low-voltage leads, transformers are arranged for series or multiple two-wire service, or for three-wire service.

Service.—Suitable for outdoor or indoor installation.

Mounting.—Sizes 50 kva and smaller are suitable for direct pole mounting.

HIGH-VOLTAGE RATING, 480

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 480	Below 480
120/240	None	(2) 5%

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	26H314	$142	3	155
5	26H315	220	3¾	180
10	26H317	340	9¼	295
15	26H318	434	13	385
25	26H319	600	19	550
37.5	26H320	786	34	815
50	26H321	962	31	930
75	26H322	1284	37	1135
100	26H323	1600	45	1370

HIGH-VOLTAGE RATING, 600

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 600	Below 600
120/240	None	(2) 5%

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	26H325	$142	3	155
5	26H326	220	3¾	180
10	26H328	340	9¼	295
15	26H329	434	13	385
25	26H330	600	19	550
37.5	26H331	786	34	815
50	26H332	962	31	930
75	26H333	1284	37	1135
100	26H334	1600	45	1370

FOR 2400- AND 4160Y-VOLT CIRCUITS, NO TAPS

Application.—By connection of the low-voltage leads, transformers having low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

Service.—Suitable for outdoor or indoor installation.

Mounting.—Sizes 50 kva and smaller are suitable for direct pole mounting.

G-E TYPE HS OIL-IMMERSED DISTRIBUTION TRANSFORMERS
Continued

HIGH-VOLTAGE RATING, 2400/4160Y
No Taps

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	26H2	**$134**	3	150
5	26H3	**210**	3¾	175
10	26H5	**324**	9¼	290
15	26H6	**412**	13	380
25	26H7	**570**	19	540
37.5	26H8	**746**	34	800
50	26H9	**914**	31	930

FOR 2400- AND 4160Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or three-wire service. Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

Mounting.—Sizes 50 kva and smaller are suitable for direct pole mounting.

With Taps

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 2400	Below 2400
120/240, 240/120	None	(4) 2½%
240/480, 240X480, 600	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Cat. No. Low * Voltage, 120/240	Cat. No. Low † Voltage, 240/480	Cat. No. Low Voltage, 600	Price Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	26H18	26H34	26H50	**$142**	4	165
5	26H19	26H35	26H51	**220**	5½	190
10	26H21	26H37	26H53	**340**	9¼	290
15	26H22	26H38	26H54	**434**	13	380
25	26H23	26H39	26H55	**600**	19	540
37.5	26H24	26H40	26H56	**786**	34	800
50	26H25	26H41	26H57	**962**	31	930
75	26H26	26H42	26H58	**1284**	37	1125
100	26H27	26H43	26H59	**1600**	45	1360
167	33H273	.....	.....	**2542**	86	2400
250	47X40	.....	.....	**3518**	170	3740
333	47X41	.....	.....	**4238**	191	4420
500	47X42	.....	.....	**5544**	270	6080
167	.....	33H274	33H275	**2426**	86	2400
250	.....	29H594	29H603	**3426**	170	3800
333	.....	29H595	29H604	**4126**	190	4400
500	.....	29H596	29H605	**5400**	270	6000

FOR 4160-VOLT CIRCUITS

Application.—These transformers are to provide service where it is more economical or desirable to connect transformers across phases than between line and neutral on 2400/4160-volt Y circuits. The use as 10:1-ratio transformers connected between line and neutral.

By connection of low-voltage leads, transformers having low-voltage ratings of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Service.—Suitable for outdoor or indoor use.

Mounting.—Sizes 50 kva and smaller are arranged for direct pole mounting.

HIGH-VOLTAGE RATING, 4160 DELTA

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 4160	Below 4160
120/240	None	(4) 2½%
240/480	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Low Voltage, 120/240	Low Voltage, 240/480	Price, Each	Oil Required, Gal.	Ship. Wt, Lb
3	26H336	28H66	**$154**	4	165
5	26H337	28H67	**234**	5½	195
10	26H339	28H69	**372**	9¼	290
15	26H340	28H70	**470**	13	380
25	26H341	28H71	**664**	22½	570
37.5	26H342	28H72	**862**	34	850
50	26H343	28H73	**1050**	43	1025
75	26H344	28H74	**1394**	38	1115
100	26H345	28H75	**1716**	47	1345

FOR 4800- AND 8320Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor use.

Mounting.—Sizes 50 kva and smaller are suitable for direct pole mounting.

HIGH-VOLTAGE RATING, 4800/8320Y
No Taps

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	26H66	**$146**	4	165
5	26H67	**222**	5½	195
10	26H69	**354**	9¼	290
15	26H70	**446**	13	380
25	26H71	**630**	22½	570
37.5	26H72	**818**	34	850
50	26H73	**998**	43	1025

With Taps

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 4800	Below 4800
120/240, 240/120	None	(4) 2½%
240/480, 240X480, 600	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low † Voltage, 240/480	Low Voltage, 600	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	26H82	26H98	26H114	**$154**	4	165
5	26H83	26H99	26H115	**234**	5½	195
10	26H85	26H101	26H117	**372**	9¼	290
15	26H86	26H102	26H118	**470**	13	380
25	26H87	26H103	26H119	**664**	22½	570
37.5	26H88	26H104	26H120	**862**	34	850
50	26H89	26H105	26H121	**1050**	43	1025
75	26H90	26H106	26H122	**1394**	37	1115
100	26H91	26H107	26H123	**1716**	45	1345
167	33H276	.....	.....	**2680**	86	2400
250	29H610	.....	.....	**3626**	170	3800
333	29H611	.....	.....	**4304**	190	4500
500	29H612	.....	.....	**5580**	270	6100
167	.....	33H277	33H278	**2558**	86	2360
250	.....	29H619	29H628	**3530**	170	3800
333	.....	29H620	29H629	**4190**	190	4400
500	.....	29H621	29H630	**5436**	270	6000

* 240/120 for 250 kva to 500 kva, inclusive. † 240X480 for 167 kva to 500 kva, inclusive.

G-E TYPE HS OIL-IMMERSED DISTRIBUTION TRANSFORMERS
Continued

FOR 2400-, 4160Y-, 4800-, AND 8320Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads, transformers having a low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor use.

Mounting.—Sizes 50 kva and smaller are suitable for direct pole mounting.

HIGH-VOLTAGE RATING, 2400X4800/8320Y
No Taps

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low † Voltage, 240/480	Low Voltage, 600	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	26H130	33H280	33H293	$154	4	165
5	26H131	33H281	33H294	232	5½	195
10	26H133	33H282	33H295	372	9¼	290
15	26H134	33H283	33H296	470	13	380
25	26H135	33H284	33H297	664	22½	570
37.5	26H136	33H285	33H298	858	34	850
50	26H137	33H286	33H299	1046	43	1025
75	26H138	33H287	33H300	1390	37	1115
100	26H139	33H288	33H301	1712	45	1345
167	33H279	.....	.....	2662	86	2400
250	26H142	.....	.....	3592	170	3800
333	26H143	.....	.....	4264	190	4500
500	26H144	.....	.....	5532	270	6100
167	.....	33H289	33H302	2546	86	2400
250	.....	33H290	33H303	3502	170	3800
333	.....	33H291	33H304	4158	190	4400
500	.....	33H292	33H305	5394	270	6000

FOR 7200- AND 12,470Y-VOLT CIRCUITS

Application.—By connection of low-voltage leads, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

Mounting.—Sizes 50 kva and smaller are arranged for direct pole mounting.

HIGH-VOLTAGE RATING, 7200/12,470Y

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7200	Below 7200
120/240, 240/120	None	(4) 2½%
240/480, 240X480, 600, 2400, 4800	(2)2½%	(2) 2½%

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low † Voltage, 240/480	Low Voltage, 600	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	33H306	33H316	33H329	$170	6	180
5	33H307	33H317	33H330	266	5¾	190
10	33H308	33H318	33H331	424	11	305
15	33H309	33H319	33H332	544	18	460
25	33H310	33H320	33H333	742	25	625
37.5	33H311	33H321	33H334	972	33	870
50	33H312	33H322	33H335	1178	43	1100
75	33H313	33H323	33H336	1562	64	1480
100	33H314	33H324	33H337	1864	59	1620
167	33H315	.....	.....	2706	100	2900
250	29H651	.....	.....	3626	170	3900
333	29H652	.....	.....	4304	185	4500
500	29H653	.....	.....	5580	265	6000
167	.....	33H325	33H338	2582	100	2900
250	.....	33H326	33H339	3530	170	3900
333	.....	33H327	33H340	4190	185	4500
500	.....	33H328	33H341	5436	265	6000

*240/120 for 250 to 500 kva incl. †240X480 for 167 to 500 kva incl.

HIGH-VOLTAGE RATING, 7200/12, 470Y

Kva Cont. 55 C Rise	Low Voltage, 2400	Low Voltage, 4800	Price, Each	Oil Required, Gal	Ship. Wt, Lb
25	33H942	.....	$ 742	26	615
50	33H943	.....	1178	43	1100
100	33H944	.....	1864	58	1640
167	33H945	.....	2460	101	2800
250	32H169	.....	3152	165	3700
333	32H170	.....	3742	180	4200
500	32H171	.....	4852	260	5700
25	.....	33H957	854	35	810
50	.....	33H958	1354	43	1100
100	.....	33H959	2144	58	1640
167	.....	33H960	2644	101	2800
250	.....	33H961	3230	165	3700
333	.....	33H962	3836	180	4200
500	.....	33H963	4974	260	5700

FOR 12,470 GrY/7200-VOLT CIRCUITS

Application.—For use on circuits having a common electrical neutral. By connection of low-voltage leads, transformers having a low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

Service.—Suitable for indoor or outdoor service.

Mounting.—Suitable for direct pole mounting.

HIGH-VOLTAGE RATING, 12,470 Gr/Y7200
No Taps

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	26H533	$154	4½	165
5	26H534	244	5½	185

With Taps

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7200	Below 7200
120/240	None	(4) 2½%

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	33H347	$162	4½	165
5	33H348	258	5½	185
10	33H349	416	11	315
15	33H350	536	18	470
25	33H351	734	25	615

FOR 13,200 GrY/7620-VOLT CIRCUITS

Application.—For use on circuits having a common electrical neutral. By connection to the low-voltage leads, transformers having a low-voltage rating of 120/240 are arranged for series or multiple two-wire, or for three-wire service.

Service.—Suitable for indoor or outdoor use.

Mounting.—Suitable for direct pole mounting.

G-E TYPE HS OIL-IMMERSED DISTRIBUTION TRANSFORMERS
Continued

HIGH-VOLTAGE RATING, 13,200 GrY/7620
No Taps

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	26H725	$154	4½	165
5	26H726	244	5½	185

With Taps

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7620	Below 7620
120/240	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Cat. No. Low Voltage 120/240	List Price, Each, Including Oil and Boxing	Oil Required, Gal	Ship. Wt, Lb
3	33H352	$162	4½	165
5	33H353	258	5½	185
10	33H354	416	11	315
15	33H355	536	18	470
28	33H356	734	25	615

FOR 7620 AND 13,200Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or three-wire service. Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for indoor or outdoor use.

Mounting.—Sizes 50 kva and smaller are arranged for direct pole mounting.

HIGH-VOLTAGE RATING, 7620/13,200Y

Low Voltage	High-voltage Taps (Kva) Rated	
	Above 7620	Below 7620
120/240, 240/120, 240/480, 240X480, 600, 2400, 4800	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low † Voltage, 240/480	Low Voltage, 600	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	33H357	33H370	33H383	$170	6	180
5	33H358	33H371	33H384	266	5¾	190
10	33H359	33H372	33H385	424	11	305
15	33H360	33H373	33H386	544	18	460
25	33H361	33H374	33H387	742	25	625
37.5	33H362	33H375	33H388	972	33	870
50	33H363	33H376	33H389	1178	43	1100
75	33H364	33H377	33H390	1562	64	1480
100	33H365	33H378	33H391	1864	59	1620
167	33H366	.....	.....	2706	100	2900
250	33H367	.....	.....	3626	170	3900
333	33H368	.....	.....	4304	185	4500
500	33H369	.....	.....	5580	265	6000
167	.....	33H379	33H392	2582	100	2900
250	.....	33H380	33H393	3530	170	3900
333	.....	33H381	33H394	4190	185	4500
500	.....	33H382	33H395	5436	265	6000

* 240/120 for 250 to 500 kva, incl.
† 240X480 for 167 to 500 kva, incl.

HIGH-VOLTAGE RATING, 7620/13,200Y

Kva Cont. 55 C Rise	Low Voltage, 2400	Low Voltage, 4800	Price, Each	Oil Required, Gal.	Ship. Wt, Lb
25	33H399	.....	$742	26	615
50	33H401	.....	1178	43	1100
100	33H403	.....	1864	59	1620
167	33H404	.....	2460	101	2800
250	33H405	.....	3152	170	3700
333	33H406	.....	3742	190	4200
500	33H407	.....	4852	260	5700
25	.....	33H993	854	35	810
50	.....	33H994	1354	43	1100
100	.....	33H995	2144	59	1620
167	.....	33H996	2644	101	2800
250	.....	33H997	3230	170	3700
333	.....	33H998	3836	190	4200
500	.....	33H999	4974	260	5700

FOR 12,000-VOLT CIRCUITS

Application.—By connection of low-voltage leads, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

Mounting.—Sizes 50 kva and smaller are arranged for direct pole mounting.

HIGH-VOLTAGE RATING, 12,000

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 12,000	Below 12,000
120/240, 240/120	None	(4) 2½%
240/480, 240X480, 600 2400, 4800	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low † Voltage, 240/480	Low Voltage, 600	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	26H869	33H409	33H422	$208	6	180
5	26H870	33H410	33H423	284	5¾	190
10	26H872	33H411	33H424	434	11	305
15	26H873	33H412	33H425	548	18	460
25	26H874	33H413	33H426	742	25	625
37.5	26H875	33H414	33H427	972	33	870
50	26H876	33H415	33H428	1178	43	1100
75	26H877	33H416	33H429	1562	64	1480
100	26H878	33H417	33H430	1864	59	1620
167	33H408	.....	.....	2706	100	2900
250	47X249	.....	.....	3626	170	3900
333	47X250	.....	.....	4304	185	4500
500	47X251	.....	.....	5580	265	6000
167	.....	33H418	33H431	2582	100	2900
250	.....	33H419	33H432	3530	170	3900
333	.....	33H420	33H433	4190	185	4500
500	.....	33H421	33H434	5436	265	6000

Kva Cont. 55 C Rise	Low Voltage, 2400	Low Voltage, 4800	Price, Each	Oil Required, Gal.	Ship. Wt, Lb
25	34H30	.....	$742	26	615
50	34H31	.....	1178	43	1100
100	34H32	.....	1864	59	1620
167	34H33	.....	2460	101	2800
250	34H34	.....	3152	170	3700
333	34H35	.....	3742	190	4200
500	34H36	.....	4852	260	5700
25	.....	34H48	854	35	810
50	.....	34H49	1354	43	1100
100	.....	34H50	2144	59	1620
167	.....	34H51	2644	101	2800
250	.....	34H52	3230	170	3700
333	.....	34H53	3836	190	4200
500	.....	34H54	4974	260	5700

G-E TYPE HS OIL-IMMERSED DISTRIBUTION TRANSFORMERS
Continued

FOR 13,200- AND 13,800-VOLT CIRCUITS

Application.—By connection of low-voltage leads, transformers having low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service. Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

Mounting.—Sizes 50 kva and smaller are arranged for direct pole mounting.

HIGH-VOLTAGE RATING, 13,200

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 13,200	Below 13,200
120/240, 240/120	None	(4) 2½
240X480, 600, 2400, 4800	(2) 2½%	(2) 2½%

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low Voltage, 240X480	Low Voltage, 600	Low Voltage, 2400	Low Voltage, 4800	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
167	33H440	.....	.....	.....	.....	**$2706**	100	2900
250	47X304	.....	.....	.....	.....	**3626**	168	3900
333	47X305	.....	.....	.....	.....	**4304**	185	4500
500	47X306	.....	.....	.....	.....	**5580**	266	6000
167	.....	33H441	33H445	.....	.....	**2582**	100	2900
250	.....	33H442	33H446	.....	.....	**3530**	167	3900
333	.....	33H443	33H447	.....	.....	**4190**	186	4500
500	.....	33H444	33H448	.....	.....	**5436**	265	6000
25	.....	.....	.....	34H84	.....	**784**	26	615
50	.....	.....	.....	34H85	.....	**1202**	43	1100
100	.....	.....	.....	34H86	.....	**1864**	59	1620
167	.....	.....	.....	34H87	.....	**2460**	100	2800
250	.....	.....	.....	34H88	.....	**3152**	166	3700
333	.....	.....	.....	34H89	.....	**3742**	182	4200
500	.....	.....	.....	34H90	.....	**4852**	255	5700
25	.....	.....	.....	.....	34H102	**902**	35	810
50	.....	.....	.....	.....	34H103	**1382**	43	1100
100	.....	.....	.....	.....	34H104	**2144**	59	1620
167	.....	.....	.....	.....	34H105	**2644**	100	2800
250	.....	.....	.....	.....	34H106	**3230**	166	3700
333	.....	.....	.....	.....	34H107	**3836**	182	4200
500	.....	.....	.....	.....	34H108	**4974**	255	5700

HIGH-VOLTAGE RATING, 13,800

Low Voltage	High-voltage Taps (Rated Kva)
120/240, 240/120, 240X480 600, 2400, 4800	14,400/14,100/13,500/13,200

Kva Cont. 55 C Rise	Low * Voltage, 120/240	Low Voltage, 240X480	Low Voltage, 600	Low Voltage, 2400	Low Voltage, 4800	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
167	33H450	.....	.....	.....	.....	**$2706**	100	2900
250	33H451	.....	.....	.....	.....	**3626**	171	3900
333	33H452	.....	.....	.....	.....	**4304**	183	4500
500	33H453	.....	.....	.....	.....	**5580**	263	6000
167	.....	33H454	33H458	.....	.....	**2582**	100	2900
250	.....	33H455	33H459	.....	.....	**3530**	168	3900
333	.....	33H456	33H460	.....	.....	**4190**	185	4500
500	.....	33H457	33H461	.....	.....	**5436**	265	6000
167	.....	.....	.....	33H630	.....	**2460**	102	2800
250	.....	.....	.....	33H631	.....	**3152**	167	3700
333	.....	.....	.....	33H632	.....	**3742**	181	4200
500	.....	.....	.....	33H633	.....	**4852**	258	5700
167	.....	.....	.....	.....	34H142	**2644**	102	2800
250	.....	.....	.....	.....	34H143	**3230**	167	3700
333	.....	.....	.....	.....	34H144	**3836**	181	4200
500	.....	.....	.....	.....	34H145	**4974**	258	5700

* 240/120 for 250 kva to 500 kva incl.

HIGH-VOLTAGE RATING, 14,400/13,200

Low Voltage	High-voltage Taps
120/240, 240/480, 600, 2400, 4800	13,800/13,200/12,870 volts, rated kva 12,540 volts, reduced kva

Kva Cont. 55 C Rise	Low Voltage, 120/240	Low Voltage, 240/480	Low Voltage, 600	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
3	28H566	28H580	28H594	**$236**	6	180
5	28H567	28H581	28H595	**316**	9½	270
10	28H568	28H582	28H596	**472**	11	305
15	28H569	28H583	28H597	**592**	18	455
25	28H570	28H584	28H598	**784**	26	625
37.5	28H571	28H585	28H599	**998**	33	870
50	28H572	28H586	28H600	**1202**	43	1105
75	28H573	28H587	28H601	**1562**	64	1475
100	28H574	28H588	28H602	**1864**	59	1620

Kva Cont. 55 C Rise	Low Voltage, 2400	Low Voltage, 4800	Price, Each	Oil, Required, Gal.	Ship. Wt, Lb
25	28H612	.....	**$784**	26	630
50	28H614	.....	**1202**	43	1100
100	28H616	.....	**1864**	58	1640
25	.....	34H172	**902**	35	825
50	.....	34H173	**1382**	43	1100
100	.....	34H174	**2144**	58	1640

FOR 22,900-VOLT CIRCUITS

Application.—For use at outdoor substations.

HIGH-VOLTAGE RATING, 22,900

Low Voltage	High-voltage Taps (Rated Kva)
2400/4160Y, 2520/4360Y 4800/8320Y, 5040/8720Y 7200/12,470Y, 7560/13,090Y 7620/13,200Y, 7980/13,800Y	24,100/23,500/22,300/21,700

Kva Cont. 55 C Rise	Low Voltage, 2400/ 4160Y	Low Voltage, 2520/ 4360Y	Low Voltage, 4800/ 8320Y	Low Voltage, 5040/ 8720Y	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
25	33H665	.....	.....	.....	**$1710**	62	1305
50	33H666	.....	.....	.....	**2114**	67	1520
100	33H667	.....	.....	.....	**2770**	97	2400
167	33H668	.....	.....	.....	**3462**	130	3200
250	33H669	33H672	.....	.....	**4226**	195	4200
333	33H670	33H673	.....	.....	**4920**	215	4800
500	33H671	33H674	.....	.....	**6124**	315	6700
25	.....	.....	33H675	.....	**1966**	62	1305
50	.....	.....	33H676	.....	**2432**	67	1520
100	.....	.....	33H677	.....	**3186**	97	2400
167	.....	.....	33H678	.....	**3722**	130	3200
250	.....	.....	33H679	33H682	**4332**	195	4200
333	.....	.....	33H680	33H683	**5044**	215	4800
500	.....	.....	33H681	33H684	**6278**	315	6700

Kva Cont. 55 C Rise	Low Voltage, 7200/ 12470Y	Low Voltage, 7560/ 13090Y	Low Voltage, 7620/ 13200Y	Low Voltage, 7980/ 13800Y	Price, Each	Oil, Reqd, Gal.	Ship Wt, Lb
25	33H688	.....	33H698	.....	**$2052**	62	1305
50	33H689	.....	33H699	.....	**2536**	67	1520
100	33H690	.....	33H700	.....	**3324**	97	2355
167	33H691	.....	33H701	.....	**3894**	128	3100
250	33H692	33H695	33H702	33H705	**4438**	196	4100
333	33H693	33H696	33H703	33H706	**5166**	213	4780
500	33H694	33H697	33H704	33H707	**6430**	310	6500

G-E TYPE HS OIL-IMMERSED DISTRIBUTION TRANSFORMERS
Continued

FOR 34,400-VOLT CIRCUITS

Application.—For use at substations.

HIGH-VOLTAGE RATING, 34,400

Low Voltage	High-voltage Taps (Rated Kva)
2400/4160Y, 2520/4360Y 4800/8320Y, 5040/8720Y 7200/12470Y, 7560/13,090Y 7620/13,200Y, 7980/13,800Y	36,200/35,300/33,500/32,600

Kva Cont. 55 C Rise	Low Voltage, 2400/ 4160Y	Low Voltage, 2520/ 4360Y	Low Voltage, 4800/ 8320Y	Low Voltage, 5040/ 8720Y	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
50	33H729	.....	.....	.....	$2430	76	1700
100	33H730	.....	.....	.....	3082	97	2500
167	33H731	.....	.....	.....	3810	125	3200
250	33H732	33H735	.....	.....	4578	195	4300
333	33H733	33H736	.....	.....	5248	210	4900
500	33H734	33H737	.....	.....	6432	315	6700
50	.....	.....	33H738	.....	2794	76	1700
100	.....	.....	33H739	.....	3544	97	2500
167	.....	.....	33H740	.....	4096	125	3200
250	.....	.....	33H741	33H744	4692	195	4300
333	.....	.....	33H742	33H745	5380	210	4900
500	.....	.....	33H743	33H746	6592	315	6700

Kva Cont. 55 C Rise	Low Voltage, 7200/ 12470Y	Low Voltage, 7560/ 13090Y	Low Voltage, 7620/ 13200Y	Low Voltage, 7980/ 13800Y	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
50	33H750	.....	33H759	.....	$2916	76	1700
100	33H751	.....	33H760	.....	3698	98	2500
167	33H752	.....	33H761	.....	4286	125	3200
250	33H753	33H756	33H762	33H765	4806	195	4300
333	33H754	33H757	33H763	33H766	5510	210	4900
500	33H755	33H758	33H764	33H767	6754	315	6700

FOR 43,800-VOLT CIRCUITS

Application.—For use at outdoor substations.

HIGH-VOLTAGE RATING, 43,800

Low Voltage	High-voltage Taps (Rated Kva)
2400/4160Y, 2520/4360Y 4800/8320Y, 5040/8720Y 7200/12,470Y, 7560/13,090Y 7620/13,200Y, 7980/13,800Y	46,200/45,000/42,600/41,400

Kva Cont. 55 C Rise	Low Voltage, 2400/ 4160Y	Low Voltage, 2520/ 4360Y	Low Voltage, 4800/ 8320Y	Low Voltage, 5040/ 8720Y	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
50	33H789	.....	.....	.....	$3202	130	2600
100	33H790	.....	.....	.....	3762	160	3200
167	33H791	.....	.....	.....	4466	170	3700
250	33H792	33H795	.....	.....	5270	260	5100
333	33H793	33H796	.....	.....	5948	265	5700
500	33H794	33H797	.....	.....	7246	305	6900
50	.....	.....	33H798	.....	3682	130	2600
100	.....	.....	33H799	.....	4326	160	3200
167	.....	.....	33H800	.....	4800	170	3700
250	.....	.....	33H801	33H804	5402	260	5100
333	.....	.....	33H802	33H805	6096	265	5700
500	.....	.....	33H803	33H806	7482	305	6900

Kva Cont. 55 C Rise	Low Voltage, 7200/ 12470Y	Low Voltage, 7560/ 13090Y	Low Voltage, 7620/ 13200Y	Low Voltage, 7980/ 13800Y	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
50	33H810	.....	33H819	.....	$3842	130	2600
100	33H811	.....	33H820	.....	4514	160	3200
167	33H812	.....	33H821	.....	5024	170	3700
250	33H813	33H816	33H822	33H825	5534	260	5100
333	33H814	33H817	33H823	33H826	6246	265	5700
500	33H815	33H818	33H824	33H827	7608	305	6900

FOR 67,000-VOLT CIRCUITS

Application.—For use at outdoor substations.

HIGH-VOLTAGE RATING, 67,000

Low Voltage	High-voltage Taps (Rated Kva)
2400/4160Y, 2520/4360Y 4800/8320Y, 5040/8720Y 7200/12,470Y, 7560/13,090Y 7620/13,200Y, 7980/13,800Y	70,600/68,800/65,200/63,400

Kva Cont. 55 C Rise	Low Voltage, 2400/ 4160Y	Low Voltage, 2520/ 4360Y	Low Voltage, 4800/ 8320Y	Low Voltage, 5040/ 8720Y	Price, Each	Oil Reqd, Gal.	Ship. Wt, Lb
100	33H843	.....	.....	.....	$4930	240	4200
167	3 3H844	.....	.....	.....	5660	250	4800
250	33H845	33H848	.....	.....	6550	275	5500
333	33H846	33H839	.....	.....	7306	295	6100
500	33H847	33H850	.....	.....	8570	375	8000
100	.....	.....	33H851	.....	5670	240	4200
167	.....	.....	33H852	.....	6084	250	4800
250	.....	.....	33H853	33H856	6714	275	5500
333	.....	.....	33H854	33H857	7488	295	6100
500	.....	.....	33H855	33H858	8784	375	8000
100	33H862	.....	33H870	.....	5916	240	4200
167	33H863	.....	33H871	.....	6368	250	4800
250	33H864	33H867	33H872	33H875	6878	275	5500
333	33H865	33H868	33H873	33H876	7672	295	6100
500	33H866	33H869	33H874	33H877	8998	375	8000

Kva Cont. 55 C Rise	Low Voltage, 7200/ 12,470Y	Low Voltage, 7560/ 13,090Y	Low Voltage, 7620/ 13,200Y	Low Voltage, 7980/ 13,800Y	Price, Each	Oil Reqd, Gal	Ship. Wt, Lb
100	33H862	.....	33H870	.....	$5916	240	4200
167	33H863	.....	33H871	.....	6368	250	4800
250	33H864	33H867	33H872	33H875	6878	275	5500
333	33H865	33H868	33H873	33H876	7672	295	6100
500	33H866	33H869	33H874	33H877	8998	375	8000

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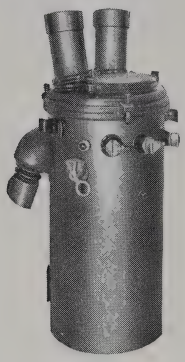
G-E TYPE HSBA OIL-IMMERSED DISTRIBUTION TRANSFORMERS

With Self-contained Lightning Protection and Overcurrent Protection—Single-phase, 60 Cycles

HIGH-VOLTAGE POCKET BUSHINGS



Class A.—For universal use on delta and Y circuits.

Complete with:
Two high-voltage bushings;
Two pellet lightning arresters;
Tank isolating gap;
Low-voltage neutral gap;
Internal high-voltage fuses;
Low-voltage circuit breaker;
Overload signal lamp (optional on 3 kva);
Support lugs for direct pole mounting.

FOR 2400- AND 4160Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING 2400/4160Y

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 2400	Below 2400
120/240	None	(4) 2½%

Kva, Cont, 55 C Rise	Line No. 1 Without Taps		Line No. 2 With Taps		Oil Req, Gal	Ship. Wt, Lb
	With Signal Lamp Cat. No.	Price, Each	With Signal Lamp Cat. No.	Price, Each		
3	*27H121	$222	*27H132	$230	6	210
5	27H122	298	27H133	308	5¾	230
10	27H124	412	27H135	428	9¼	325
15	27H125	500	27H136	522	13	405
25	27H126	658	27H137	688	22	635
37.5	27H127	874	27H138	914	33	880
50	27H128	1042	27H139	1090	42	1090

*Also available without signal lamp. List price is $14 less. Order Cat. No. 27H130, 3 kva. Line No. 1; or Cat. No. 27H141, 3 kva, Line No 2.

FOR 4800- AND 8320Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING 4800/8320Y

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 4800	Below 4800
120/240	None	(4) 2½%

Kva, Cont, 55 C Rise	Line No. 1 Without Taps		Line No. 2 With Taps		Oil Req, Gal	Ship. Wt, Lb
	With Signal Lamp Cat. No.	Price, Each	With Signal Lamp Cat. No.	Price, Each		
3	*26H253	$258	*26H242	$266	6½	230
5	26H254	334	26H243	346	6	250
10	26H256	466	26H245	484	9½	330
15	26H257	558	26H246	582	12½	430
25	26H258	742	26H247	776	22½	645
37.5	26H259	970	26H248	1014	34	895
50	26H260	1150	26H249	1202	43	1090

*Also available without signal lamp. List price is $14 less. Order Cat. No. 26H262, 3 kva, Line No. 1; or Cat. No. 26H251, 3 kva, Line No. 2.

FOR 2400-, 4160Y-, 4800-, AND 8320Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

Nameplate Voltage Ratings:

2400X4800/8320Y to 120/240 Volts

No Taps

Kva, Cont, 55 C Rise	Cat. No. with Signal Lamp	Price, Each	Oil Req, Gal.	Ship. Wt, Lb
3	*27H154	$266	6½	230
5	27H155	344	6	250
10	27H157	484	9½	330
15	27H158	582	12½	430
25	27H159	776	22½	645
37.5	27H160	1010	34	895
50	27H161	1198	43	1090

*Also available without signal lamp. List price is $14 less. Order Cat. No. 27H163.

G-E TYPE HSBA OIL-IMMERSED DISTRIBUTION TRANSFORMERS

With Self-contained Lightning Protection and Overcurrent Protection—Single-phase, 60 Cycles

HIGH-VOLTAGE COVER BUSHING

FOR 7200- AND 12,470Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 7200/12470Y With Taps

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7200	Below 7200
120/240	None	(4) 2½%

Kva Cont, 55 C Rise	Cat. No. with Signal Lamp	Price, Each	Oil Required, Gal	Ship. Wt, Lb
3	*33H462	$290	5¾	235
5	33H463	386	5¾	255
10	33H464	544	12	380
15	33H465	664	18	525
25	33H466	862	25	715
37.5	33H467	1132	33	970
50	33H468	1338	43	1170

*Also available without signal lamp. Price is $14 less. Order Cat. No. 33H469.

FOR 7620- AND 13,200Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 7620/13,200Y

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7620	Below 7620
120/240	(2) 2½%	(2) 2½%

Kva Cont, 55 C Rise	Cat. No. with Signal Lamp	Price, Each	Oil Required, Gal	Ship. Wt, Lb
3	*33H470	$290	5¾	235
5	33H471	386	5¾	255
10	33H472	544	12	380
15	33H473	664	18	525
25	33H474	862	25	715
37.5	33H475	1132	33	970
50	33H476	1338	43	1170

*Also available without signal lamp. Price is $14 less. Order Cat. No. 33H477.

FOR 12,000-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 12,000

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 12,000	Below 12,000
120/240	None	(4) 2½%

Kva Cont, 55 C Rise	Cat. No. with Signal Lamp	Price, Each	Oil Required, Gal	Ship. Wt, Lb
3	*28H447	$380	9½	285
5	28H448	456	9½	300
10	28H450	606	13½	410
15	28H451	720	20½	575
25	28H452	914	25	720
37.5	28H453	1184	33	980
50	28H454	1390	43	1180

*Also available without signal lamp. Price is $14 less. Order Cat. No. 28H445.

FOR 14,400/13,200 VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

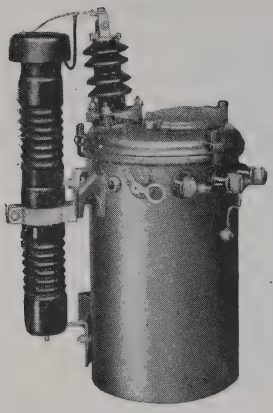
HIGH-VOLTAGE RATING, 14,400/13,200

Low Voltage	High-voltage Taps
120/240	13,800/13,200, 12870 Volts rated kva 12,540 Volts reduced kva

Kva Cont, 55 C Rise	Cat. No. with Signal Lamp	Price, Each	Oil Required, Gal	Ship. Wt, Lb
3	*28H646	$408	9	300
5	28H647	488	13	390
10	28H648	644	12	415
15	28H649	764	21	580
25	28H650	956	25	720
37.5	28H651	1210	33	980
50	28H652	1414	43	1180

*Also available without signal lamp. Price is $14 less. Order Cat. No. 28H653.

G-E TYPE HSBA OIL-IMMERSED DISTRIBUTION TRANSFORMERS



Class B2.—**For use on solidly grounded common-neutral circuits with the tank solidly grounded.**

Complete with:

- One high-voltage bushing;
- One clamp-terminal tank-grounding connector;
- One pellet lightning arrester;
- Low-voltage neutral link bolted to tank externally;
- Internal high-voltage fuse;
- Low-voltage circuit breaker;

Overload signal lamp (optional on 3 kva); Support lugs for direct pole mounting.

FOR 12,470 Grd Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 12,470-GrdY/7200

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7200	Below 7200
120/240	None	(4) 2½%

Kva, Cont, 55 C Rise	Line No. 1 Without Taps		Line No. 2 With Taps		Oil Req, Gal	Ship. Wt, Lb
	With Signal Lamp Cat. No.	Price, Each	With Signal Lamp Cat. No.	Price, Each		
3	*26H264	$232	*33H478	$240	5¾	200
5	28H265	322	33H479	336	5¾	220
10	.....	.....	33H480	494	12	335
15	.....	.....	33H481	614	18	495
25	.....	.....	33H482	812	25	690

*Also available without signal lamp. List price is $14 less. Order Cat. No. 26H268, 3 kva, Line No. 1; or Cat. No. 33H483, 3 kva, Line No. 2.

FOR 13,200 Grd Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers with low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 13,200 GrdY/7620

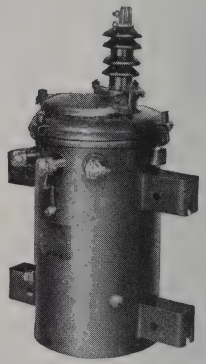
Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7620	Below 7620
120/240	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	Line No. 1 Without Taps		Line No. 2 With Taps		Oil Req, Gal	Ship. Wt, Lb
	With Signal Lamp Cat. No.	Price, Each	With Signal Lamp Cat. No.	Price, Each		
3	*26H276	$232	*33H484	$240	5¾	200
5	26H277	322	33H485	336	5¾	220
10	.....	.....	33H486	494	12	335
15	.....	.....	33H487	614	18	495
25	.....	.....	33H488	812	25	690

*Also available without signal lamp. List price is $14 less. Order Cat. No. 26H282, 3 kva, Line No. 1; or Cat. No. 33H489, 3 kva, Line No. 2.

G-E TYPE HS OIL-IMMERSED RURAL-LINE TRANSFORMERS

In Accordance with R.E.A. Requirements



These transformers are of the single-high-voltage-bushing design, with one end of the high voltage winding permanently connected to the tank which, in turn, is to be solidly grounded by connection to the common system neutral.

These transformers offer the utmost in service reliability as they embody the same perfection of detail in design and construction as the standard Type HS distribution transformer.

Each unit complete with:

One high-voltage cover bushing;

Handhole in cover;

Three low-voltage tank-wall bushings;

Provision for direct pole mounting with the low-voltage bushings 90 degrees from the pole;

Two mounting positions, on opposite sides of tank;

Two clamp-terminal tank-grounding connectors;

Low-voltage neutral grounded to tank.

G-E TYPE HS OIL-IMMERSED RURAL-LINE TRANSFORMERS—Continued

FOR 12,470-GrY-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 12,470-GrdY/7200

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7200	Below 7200
120/240	None	(4) 2½%

Kva, Cont, 55 C Rise	Cat. No.	Price, Each	Oil Req, Gal	Approx Ship. Wt, Lb, Incl Oil
1.5	31H881	$148	5¼	145
3	31H882	164	4¾	160
5	31H883	260	5½	185
7.5	31H884	354	9½	275
10	31H885	418	11	305
15	31H886	538	18	455
25	31H887	736	25	620
1.5	*31H895	164	5¼	150
3	*31H896	180	4¾	165
5	*31H897	276	5½	190
7.5	*31H898	370	11½	295
10	*31H899	434	12¼	315
15	*31H900	554	18	460
25	*31H901	752	25	625

*These transformers have double bushing gap, internal high-voltage use, and bracket for future mounting of lightning arrester, in addition to the accessories listed on the previous page.

FOR 13,200-GrY-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

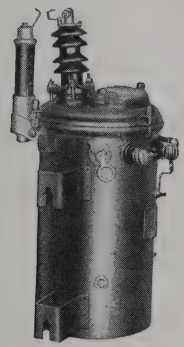
HIGH-VOLTAGE RATING, 13,200-GrdY/7620

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7620	Below 7620
120/240	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	Cat. No.	Price, Each	Oil Req, Gal	Approx Ship. Wt, Lb, Incl Oil
1.5	31H888	$148	5¼	145
3	31H889	164	4¾	160
5	31H890	260	5½	185
7.5	31H891	354	9½	275
10	31H892	418	11	305
15	31H893	538	18	455
25	31H894	736	25	625
1.5	*31H902	164	5¼	150
3	*31H903	180	4¾	165
5	*31H904	276	5½	190
7.5	*31H905	370	11½	295
10	*31H906	434	12¼	315
15	*31H907	554	18	460
25	*31H908	752	25	625

G-E TYPE HSBA OIL-IMMERSED RURAL-LINE TRANSFORMERS

In Accordance with R.E.A. Requirements



They embody the same reliability as the conventional Type HSBA transformer. Lightning protection is afforded by a Hi-Stroke rural arrester mounted directly on the tank, and overcurrent protection is provided by a low-voltage circuit breaker mounted inside the tank, under oil.

Each unit complete with:

- One high-voltage cover bushing;
- One Hi-Stroke rural arrester;
- Internal high-voltage fuse;
- Handhole in cover;
- Overload signal lamp (on sizes 7½ kva and larger);
- Three low-voltage tank-wall bushings;
- Internal low-voltage circuit breaker with external operating handle;
- Provision for direct pole mounting with low-voltage bushings 90 degrees from the pole;
- Two mounting positions, on opposite sides of tank;
- Two clamp-terminal tank-grounding connectors;
- Low-voltage neutral grounded to tank.

FOR 12,470-GrY-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 12,470-GrdY/7200

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7200	Below 7200
120/240	None	(4) 2½%

Kva, Cont, 55 C Rise	Cat. No.	Price, Each	Oil Req, Gal	Approx Ship. Wt, Lb, Incl Oil
1.5	31H923	$212	5¼	150
3	31H924	228	4¾	165
5	31H925	324	5½	195
7.5	31H926	432	11	290
10	31H927	496	12	320
15	31H928	616	18	480
25	31H929	814	25	650

FOR 13,200-GrY-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

HIGH-VOLTAGE RATING, 13,200-GrdY/7620

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 7620	Below 7
120/240	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	Cat. No.	Price, Each	Oil Req, Gal	Approx Ship. Wt, Lb, Incl Oil
1.5	31H930	$212	5¼	150
3	31H931	228	4¾	165
5	31H932	324	5½	195
7.5	31H933	432	11	290
10	31H934	496	12	320
15	31H935	616	18	480
25	31H936	814	25	660

G-E 30,000-VOLT 0.5-KVA PORTABLE OIL TESTERS

This oil tester affords a compact, convenient, and accurate means for testing oil in the field, as it combines in a single unit, a step-up transformer, a means for gradually raising the test voltage, a voltmeter to measure breakdown values, an automatic circuit breaker, and an oil-testing receptacle.

The successful operation of high-voltage oil-insulated apparatus requires that the dielectric strength of the oil be maintained at a high value. Assurance that the oil is always satisfactory dielectrically is possible only by testing oil regularly.

All live parts of the equipment are enclosed and complete safety features assure full protection to the operator.

Furnished complete with 15 feet of 3-conductor attaching cord and plug.

Cat. No.	Price, Each	Supply Voltage	Frequency, Cycles	Ship. Wt, Lb
63G402	**$675**	115	50 to 140	100
63G403	**710**	230	50 to 140	100
63G404	**895**	115	25 to 60	100
63G405	**930**	230	25 to 60	100

For complete information, ask for Bulletin GEA-2935.

G-E No. 10-C Oil

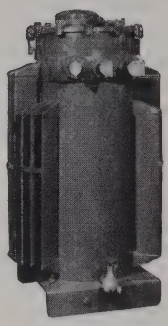
G-E No. 10-C oil is a specially prepared insulating and cooling oil for use in transformers, feeder voltage regulators, and oil fuse cutouts.

The development of this oil and the attainment of proper characteristics and uniform quality have required the closest co-operation for many years between G-E engineers and oil refiners, and involve a careful selection of proper crude oil, as well as the use and control of special refining processes applicable only to insulating oil.

Refined from selected grades of crude oil by refiners experienced in producing oil for this highly special application, this oil has the characteristics which provide both the cooling and insulating factors essential to transformer operation; it does not affect the transformer insulation, and is unaffected by these insulating materials. An important quality in transformer oil is long service life, the inherent resistance to sludge formation. Only oil known to have such properties should be used for this purpose.

G-E TYPE HS PYRANOL DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Self-cooled



This transformer generally affords substantial savings over the total installed cost of oil-filled equipment for all installations indoors or in confined locations.

Filled with Pyranol, G-E's synthetic insulating and cooling liquid, which has all of the desirable characteristics of mineral oil and, in addition, is nonflammable. Pyranol transformers can, therefore, be safely installed indoors or in confined locations without expensive fireproof vaults. They can usually be installed at the load center, giving additional savings by the elimination of long and costly runs of secondary copper, with improved voltage regulation at the load.

Pyranol transformers have made possible savings on over-all installed costs of as high as twenty-three per cent, compared with the cost of oil-filled equipment.

It is recognized by the National Electrical Code.

Pyranol is suitable for use only in Pyranol transformers, designed especially for the purpose.

For complete information, ask for Bulletin GEA-2048.

FOR 480- AND 600-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

Service.— Suitable for outdoor or indoor installation.

	High Voltage	Low Voltage	High-voltage Taps (Rated Kva)	
Line No. 1	480	120/240	Above 480	Below 480
			None	(2) 5%
Line No. 2	600	120/240	Above 600	Below 600
			None	(2) 5%

Kva, Cont, 55 C Rise	Line No. 1 Cat. No.	Line No. 2 Cat. No.	Price, Each	Ship. Wt, Lb
3	28H711	28H724	**$390**	215
5	28H712	28H725	**420**	240
10	28H714	28H727	**516**	345
15	28H715	28H728	**630**	460
25	28H716	28H729	**846**	670
37.5	28H717	28H730	**1084**	1005
50	28H718	28H731	**1308**	1150
75	28H719	28H732	**1708**	1370
100	28H720	28H733	**2096**	1620

G-E TYPE HS PYRANOL DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Self-cooled

FOR 2400- AND 4160Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

Service.— Suitable for indoor or outdoor installation.

Nameplate Voltage Ratings:

Line No. 1—2400/4160Y to 120/240 without Taps

Kva, Cont, 55 C Rise	Line No. 1 Cat. No.	Price, Each	Ship. Wt, Lb
3	28H737	**$378**	215
5	28H738	**408**	240
10	28H740	**500**	345
15	28H741	**612**	460
25	28H742	**820**	670
37.5	28H743	**1052**	1005
50	28H744	**1268**	1150

FOR 2400- AND 4160Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.— Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATINGS, 2400/4160Y

	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 2400	Below 2400
Line No. 1	120/240*	None	(4) 2½%
Line No. 2	240/480†	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	* Line No. 1 Cat. No.	Price, Each	† Line No. 2 Cat. No.	Price, Each	Ship. Wt, Lb
3	27H753	**$390**	27H768	**$390**	215
5	27H754	**420**	27H769	**420**	240
10	27H756	**516**	27H771	**516**	345
15	27H757	**630**	27H772	**630**	460
25	27H758	**846**	27H773	**846**	670
37.5	27H759	**1084**	27H774	**1084**	1005
50	27H760	**1308**	27H775	**1308**	1150
75	27H761	**1708**	27H776	**1708**	1370
100	27H762	**2096**	27H777	**2096**	1620
167	27H763	**3254**	27H778	**3106**	3150
250	27H765	**4434**	27H780	**4318**	4900
333	27H766	**5296**	27H781	**5158**	5500
500	27H767	**6930**	27H782	**6750**	7350

FOR 2400- AND 4160Y-VOLT CIRCUITS

Service.— Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATING, 2400/4160Y

Low Voltage	High-voltage Taps (Rated Kva)	
	Above 2400	Below 2400
600	(2) 2½%	(2) 2½%

*240/120 for 250 to 500 kva, inclusive.
†240x487 for 167 to 509 kva, inclusive.

Kva, Cont, 55 C Rise	Cat. No.	Price, Each	Ship. Wt, Lb
3	27H783	**$390**	215
5	27H784	**420**	240
10	27H786	**516**	345
15	27H787	**630**	460
25	27H788	**846**	670
37.5	27H789	**1084**	1005
50	27H790	**1308**	1150
75	27H791	**1708**	1370
100	27H792	**2096**	1620
167	27H793	**3106**	3150
250	27H795	**4318**	4900
333	27H796	**5158**	5500
500	27H797	**6750**	7350

FOR 4800/8320Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having a low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.— Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATING, 4800/8320Y

	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 4800	Below 4800
Line No. 1	120/240	None	None
Line No. 2	120/240*	None	(4) 2½%
Line No. 3	240/480†	(2) 2½%	(2) 2½%
Line No. 4	600	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	Line No. 1 Cat. No	Price, Each	* Line No. 2 Cat No.	Price, Each	Ship. Wt, Lb
3	27H850	**$408**	27H865	**$420**	215
5	27H851	**440**	27H866	**454**	240
10	27H853	**542**	27H868	**558**	345
15	27H854	**662**	27H869	**682**	460
25	27H855	**908**	27H870	**936**	660
37.5	27H856	**1154**	27H871	**1190**	995
50	27H857	**1386**	27H872	**1428**	1150
75	.....	.....	27H873	**1854**	1360
100	.....	.....	27H874	**2248**	1600
167	.....	.....	27H875	**3430**	3130
250	.....	.....	27H877	**4568**	4900
233	.....	.....	27H878	**5428**	5500
500	.....	.....	27H879	**6976**	7350

Kva, Cont, 55 C Rise	† Line No. 3 Cat. No.	Line No. 4 Cat. No.	Price, Each	Ship. Wt, Lb
3	27H880	27H895	**$420**	215
5	27H881	27H896	**454**	240
10	27H883	27H898	**558**	345
15	27H884	27H899	**682**	460
25	27H885	27H900	**936**	660
37.5	27H886	27H901	**1190**	995
50	27H887	27H902	**1428**	1150
75	27H888	27H903	**1854**	1360
100	27H889	27H904	**2248**	1600
167	27H890	27H905	**3274**	3130
250	27H892	27H907	**4448**	4900
333	27H893	27H908	**5286**	5500
500	27H894	27H909	**6794**	7350

G-E TYPE HS PYRANOL DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Self-cooled

FOR 2400-, 4160Y-, 4800-, AND 8320Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.— Suitable for outdoor or indoor installation.

Nameplate Voltage Ratings:

Line No. 1—2400x4800/8320Y to 120/240*—No Taps
Line No. 2—2400x4800/8320Y to 240/480†—No Taps

Kva, Cont, 55 C Rise	* Line No. 1 Cat. No.	Price, Each	† Line No. 2 Cat. No.	Price, Each	Ship. Wt, Lb
3	28H922	**$428**	33H497	**$428**	215
5	28H923	**462**	33H498	**462**	240
10	28H925	**570**	33H499	**570**	345
15	28H926	**696**	33H500	**696**	460
25	28H927	**954**	33H501	**954**	660
37.5	28H928	**1212**	33H502	**1212**	995
50	28H929	**1456**	33H503	**1456**	1150
75	33H491	**1888**	33H504	**1888**	1360
100	33H492	**2290**	33H505	**2290**	1600
167	33H493	**3478**	33H506	**3326**	3130
250	33H494	**4622**	33H507	**4506**	4900
333	33H495	**5494**	33H508	**5356**	5500
500	33H496	**7060**	33H509	**6884**	7350

Nameplate Voltage Rating:

2400x4800/8320Y to 60[illegible]—No Taps

Kva, Cont, 55 C Rise	Cat. No.	Price, Each	Ship. Wt. Lb
3	33H510	**$428**	215
5	33H511	**462**	240
10	33H512	**570**	345
15	33H513	**696**	460
25	33H514	**954**	660
37.5	33H515	**1212**	995
50	33H516	**1456**	1150
75	33H517	**1888**	1360
100	33H518	**2290**	1600
167	33H519	**3326**	3130
250	33H520	**4506**	4900
333	33H521	**5356**	5500
500	33H522	**6884**	7350

FOR 4160-VOLT CIRCUITS

This transformer is to provide service where it is more economical or desirable to connect transformer across phases than between line and neutral on 2400/4160-volt Y circuits. The use of this transformer gives the same service voltages as 10:1 ratio transformers connected between line and neutral.

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers are arranged for series or multiple two-wire service, or for three-wire service.

Service.—Suitable for outdoor or indoor installation

*240/120 for 250 to 500 kva, inclusive.
†240x480 for 167 to 500 kva, inclusive.

HIGH-VOLTAGE RATING, 4160 DELTA

	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 4160	Below 4160
Line No. 1	120/240	None	(4) 2½%
Line No. 2	240/480	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	Line No. 1 Cat. No.	Line No. 2 Cat. No.	Price, Each	Ship. Wt, Lb
3	27H800	28H752	**$420**	215
5	27H801	28H753	**454**	240
10	27H803	28H755	**558**	345
15	27H804	28H756	**682**	460
25	27H805	28H757	**936**	660
37.5	27H806	28H758	**1190**	995
50	27H807	28H759	**1428**	1150
75	27H808	28H760	**1854**	1360
100	27H809	28H761	**2248**	1600

FOR 7200- AND 12,470Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATING, 7200/12,470Y

	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 7200	Below 7200
Line No. 1	120/240*	None	(4) 2½%
Line No. 2	240/480†	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	* Line No. 1 Cat. No.	Price, Each	† Line No. 2 Cat. No.	Price, Each	Ship. Wt, Lb
3	28H301	**$488**	28H305	**$488**	220
5	28H302	**520**	28H306	**520**	240
10	28H804	**636**	28H811	**636**	370
15	28H805	**788**	28H812	**788**	585
25	28H806	**1046**	28H813	**1046**	800
37.5	28H807	**1342**	28H814	**1342**	1130
50	28H808	**1602**	28H815	**1602**	1400
75	28H809	**2078**	28H816	**2078**	1800
100	28H810	**2442**	28H817	**2442**	2075
167	31H19	**3462**	31H25	**3306**	3550
250	31H21	**4568**	31H26	**4448**	4900
333	31H22	**5428**	31H27	**5286**	5500
500	31H23	**6976**	31H28	**6794**	7350

HIGH-VOLTAGE RATING, 7200/12,470Y

	Low Voltage	High-voltage Taps Rated Kva)	
		Above 7200	Below 7200
Line No. 3	600	(2) 2½%	(2) 2½%

G-E TYPE HS PYRANOL DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Self-cooled

FOR 7200- AND 12,470Y-VOLT CIRCUITS

Continued

Kva, Cont, 55 C Rise	Line No. 3 Cat. No.	List Price, Each	Approx Ship. Wt, Lb
3	28H309	**$488**	220
5	28H310	**520**	240
10	28H818	**636**	370
15	28H819	**788**	585
25	28H820	**1046**	800
37.5	28H821	**1342**	1130
50	28H822	**1602**	1400
75	28H823	**2078**	1800
100	28H824	**2442**	2075
167	31H29	**3306**	3550
250	31H31	**4448**	4900
333	31H32	**5286**	5500
500	31H33	**6794**	7350

HIGH-VOLTAGE RATING, 7200/12,470Y

	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 7200	Below 7200
Line No. 4	2400	(2) 2½%	(2) 2½%
Line No. 5	4800	(2) 2½%	(2) 2½%

Kva. Cont. 55 C Rise	Line No. 4 Cat. No.	List Price, Each	Line No. 5 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal Pyr Req'd
25	33H946	**$1046**	.....	.....	800	26
50	33H947	**1602**	.....	.....	1400	43
100	33H948	**2442**	.....	.....	2075	60
167	33H949	**3148**	.....	.....	3550	100
250	33H950	**3972**	.....	.....	4900	170
333	33H951	**4720**	.....	.....	5250	168
500	33H952	**6066**	.....	.....	6900	220
25	.....	.....	33H964	**$1202**	800	25
50	.....	.....	33H965	**1842**	1400	43
100	.....	.....	33H966	**2808**	2075	60
167	.....	.....	33H967	**3384**	3550	100
250	.....	.....	33H968	**4072**	4900	170
333	.....	.....	33H969	**4838**	5250	168
500	.....	.....	33H970	**6218**	6900	220

FOR 7620/13,200Y-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATING, 7620/13,200Y

Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 7620	Below 7620
1	120/240*	(2) 2½%	(2) 2½%
2	240/480†	(2) 2½%	(2) 2½%
3	600	(2) 2½%	(2) 2½%
4	2400	(2) 2½%	(2) 2½%
5	4800	(2) 2½%	(2) 2½%

*240/120 for 250 to 500 Kva, incl. †240x480 for 167 to 500 Kva, incl.

Kva. Cont. 55 C Rise	Line No. 1 Cat. No. *	List Price, Each	Line No. 2 Cat. No. †	List Price, Each	Ship. Wt, Lb	Gal Pyr Req'd
3	28H319	**$ 488**	28H323	**$ 488**	220	5½
5	28H320	**520**	28H324	**520**	240	5½
10	27H934	**636**	27H946	**636**	370	10¼
15	27H935	**788**	27H947	**788**	585	18
25	27H936	**1046**	27H948	**1046**	800	26
37.5	27H937	**1342**	27H949	**1342**	1030	33
50	27H938	**1602**	27H950	**1602**	1400	43
75	27H939	**2078**	27H951	**2078**	1800	54
100	27H940	**2442**	27H952	**2442**	2075	60
167	27H941	**3462**	27H953	**3306**	3550	100
250	27H943	**4568**	27H955	**4448**	4900	170
333	27H944	**5428**	27H956	**5286**	5250	168
500	27H945	**6976**	27H957	**6794**	6900	220

Kva Cont. 55 C Rise	Line No. 3 Cat. No.	List Price, Each	Line No. 4 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyr. Req'd
3	28H327	**$ 488**	.....	.....	220	5½
5	28H328	**520**	.....	.....	240	5½
10	27H958	**636**	.....	.....	370	10¼
15	27H959	**788**	.....	.....	585	18
25	27H960	**1046**	28H250	**1046**	800	26
37.5	27H961	**1342**	.....	.....	1130	33
50	27H962	**1602**	28H252	**1602**	1400	43
75	27H963	**2078**	.....	.....	1800	54
100	27H964	**2442**	28H254	**2442**	2075	60
167	27H965	**3306**	28H255	**3148**	3550	100
250	27H967	**4448**	28H257	**3972**	4900	170
333	27H968	**5286**	28H258	**4720**	5250	168
500	27H969	**6794**	28H259	**6066**	6900	220

Kva Cont. 55 C Rise	Line No. 5 Cat. No.	List Price, Each	Line No. 4 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyr Req'd
25	34H1	**$1202**	.....	.....	800	25
50	34H2	**1842**	.....	.....	1440	45
100	34H3	**2808**	.....	.....	2075	59
167	34H4	**3384**	.....	.....	3550	100
250	34H5	**4072**	.....	.....	4900	170
333	34H6	**4838**	.....	.....	5250	168
500	34H7	**6218**	.....	.....	6900	220

FOR 12,000-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having low-voltage rating of 120/240 or 240/480 are arranged for series or multiple two-wire service, or for three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor and indoor installation.

HIGH-VOLTAGE RATING, 12,000

Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 12,000	Below 12,000
1	120/240*	None	(4) 2½%
2	240/480†	(2) 2½%	(2) 2½%

Kva, Cont, 55 C Rise	* Line No. 1 Cat. No.	Price, Each	† Line No. 2 Cat. No.	Price, Each	Ship. Wt, Lb,
3	28H332	**$520**	28H334	**$520**	220
5	28H333	**550**	28H335	**550**	240
10	27H970	**652**	27H982	**652**	370
15	27H971	**794**	27H983	**794**	585
25	27H972	**1046**	27H984	**1046**	800
37.5	27H973	**1342**	27H985	**1342**	1130
50	27H974	**1602**	27H986	**1602**	1400
75	27H975	**2078**	27H987	**2078**	1800
100	27H976	**2442**	27H988	**2442**	2075
167	27H977	**3462**	27H989	**3306**	3550
250	27H979	**4568**	27H991	**4448**	4900
333	27H980	**5428**	27H992	**5286**	5250
500	27H981	**6976**	27H993	**6794**	6900

G-E TYPE HS PYRANOL DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Self-cooled

FOR 12,000-VOLT CIRCUITS

Service.—Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATING, 12,000

Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 12,000	Below 12,000
3	600	(2) 2½%	(2) 2½%
4	2400/4160Y	(2) 2½%	(2) 2½%
5	4800/8320Y	(2) 2½%	(2) 2½%

Kva, Cont. 55 C Rise	Line No. 3 Cat. No.	List Price, Each	Line No. 4 Cat. No.	List Price, Each	Ship. Wt, Lb
3	28H336	**$520**	.....	.....	220
5	28H337	**550**	.....	.....	240
10	27H994	**652**	.....	.....	335
15	27H995	**794**	.....	.....	585
25	27H996	**1046**	34H37	**$1046**	800
37½	27H997	**1342**	.....	.....	1130
50	27H998	**1602**	34H38	**1602**	1400
75	27H999	**2078**	.....	.....	1800
100	28H1	**2442**	34H39	**2442**	2075
167	28H2	**3306**	34H40	**3148**	3550
250	28H4	**4448**	34H41	**3972**	4900
333	28H5	**5286**	34H42	**4720**	5250
500	28H6	**6794**	34H43	**6066**	6900

Low Voltage	Kva. Cont. 55 C Rise	Line No. 5 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyranol Required
4800/8320Y	25	34H55	**$1202**	800	26
	50	34H56	**1842**	1400	43
	100	34H57	**2808**	2075	60
	167	34H58	**3384**	3550	100
	250	34H59	**4072**	4900	170
	333	34H60	**4838**	5250	168
	500	34H61	**6218**	6900	220

FOR 13,200-VOLT CIRCUITS

Application.—Transformers having low-voltage rating of 120/240 are arranged for series or multiple two-wire, or three-wire service.

Transformers having low-voltage rating of 240/120 are arranged for series two-wire or three-wire service.

Transformers having low-voltage rating of 240x480 are arranged for series or multiple two-wire service.

Service.—Suitable for outdoor or indoor installation.

HIGH-VOLTAGE RATING, 13,200

Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 13,200	Below 13,200
1	120/240*	None	(4) 2½%
2	240x480	(2) 2½%	(2) 2½%
3	600	(2) 2½%	(2) 2½%
4	2400/4160Y	(2) 2½%	(2) 2½%
5	4800/8320Y	(2) 2½%	(2) 2½%

Kva, Cont. 55 C Rise	Line No. 1 Cat. No.*	List Price, Each	Line No. 2 Cat. No.	List Price, Each	Line No. 3 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyr Req'd
167	33H523	**$3462**	33H524	**$3306**	33H525	**$3306**	3550	100
250	31H121	**4568**	31H130	**4448**	31H139	**4448**	5000	170
333	31H122	**5428**	31H131	**5286**	31H140	**5286**	5450	173
500	31H123	**6976**	31H132	**6794**	31H141	**6794**	7200	225

Kva Cont. 55 C Rise	Line No. 4 Cat. No.	List Price, Each	Line No. 5 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyr Req'd
25	34H91	**$1106**	34H109	**$1272**	800	26
50	34H92	**1634**	34H110	**1880**	1400	45
100	34H93	**2442**	34H111	**2808**	2075	59
167	34H94	**3148**	34H112	**3384**	3550	100
250	34H95	**3972**	34H113	**4072**	4900	170
333	34H96	**4720**	34H114	**4838**	5250	168
500	34H97	**6066**	34H115	**6218**	6900	220

*240/120 for 250 to 500 Kva, inclusive.

13,800-VOLT CIRCUITS

HIGH-VOLTAGE RATING, 13,800

Line No.	Low Voltage	High-voltage Taps (Rated Kva)
1	120/240*	14,400/14,100/13,500/13,200
2	240/480	
3	600	
4	2400/4160Y	
5	4800/8320Y	

Kva Cont. 55 C Rise	Line No. 1 Cat. No.*	List Price, Each	Line No. 2 Cat. No.	List Price, Each	Line No. 3 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyr Req'd
167	33H527	**$3462**	33H531	**$3306**	33H535	**$3306**	3550	100
250	33H528	**4568**	33H532	**4448**	33H536	**4448**	5600	161
333	33H529	**5428**	33H533	**5286**	33H537	**5286**	6950	220
500	33H530	**6976**	33H534	**6794**	33H538	**6794**	9000	278

Kva Cont. 55 C Rise	Line No. 4 Cat. No.*	List Price, Each	Line No. 5 Cat. No.	List Price, Each	Ship. Wt, Lb	Gal. Pyr Req'd
167	33H634	**$3148**	34H146	**$3384**	3350	100
250	33H635	**3972**	34H147	**4072**	4900	170
333	33H636	**4720**	34H148	**4838**	5250	168
500	33H637	**6066**	34H149	**6218**	6900	220

FOR 14,400-VOLT CIRCUITS

Application.—By connection of the low-voltage leads to the bushing terminals inside the tank, transformers having low-voltage rating of 120/240 are arranged for series or multiple two-wire service, or for three-wire service. Transformers having low-voltage rating of 240/480 are suitable for series or multiple two-wire service, or for three-wire service.

Service.—Suitable for indoor or outdoor installation.

HIGH-VOLTAGE RATING, 14,400

Line No.	Low Voltage	High-voltage Taps	
		Rated Kva	Reduced Kva
1	120/240	13,800/13,200/12,870	12,540
2	240/480	13,800/13,200/12,870	12,540

Kva, Cont. 55 C Rise	Line No. 1 Cat. No.	List Price, Each	Line No. 2 Cat. No.	List Price, Each
3	28H829	**$588**	28H840	**$588**
5	28H830	**612**	28H841	**612**
10	28H831	**708**	28H842	**708**
15	28H832	**858**	28H843	**858**
25	28H833	**1106**	28H844	**1106**
37.5	28H834	**1378**	28H845	**1378**
50	28H835	**1634**	28H846	**1634**
75	28H836	**2078**	28H847	**2078**
100	28H837	**2442**	28H848	**2442**

Line No.	Low Voltage	High-voltage Taps	
		Rated Kva	Reduced Kva
3	600	13,800/13,200/12,870	12,540
4	2400/4160Y		
5	4800/8320Y		

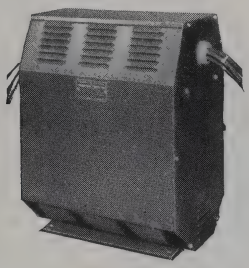
Kva, Cont. 55 C Rise	Line No. 3 Cat. No.	List Price, Each	Line No. 4 Cat. No.	List Price, Each	Line No. 5 Cat. No.	List Price, Each
3	28H851	**$ 588**	.....	.....	.....	.....
5	28H852	**612**	.....	.....	.....	.....
10	28H853	**708**	.....	.....	.....	.....
15	28H854	**858**	.....	.....	.....	.....
25	28H855	**1106**	28H865	**$1106**	34H175	**$1272**
37½	28H856	**1378**	.....	.....	.....	.....
50	28H857	**1634**	28H867	**1634**	34H176	**1880**
75	28H858	**2078**	.....	.....	.....	.....
100	28H859	**2442**	28H869	**2442**	34H177	**2808**

G-E TYPES M, D, AND AA DRY-TYPE DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Air-cooled

FOR 2400/4160Y-VOLT CIRCUITS

Type M



Type D

Application.—For indoor service in locations where conditions of dust or moisture are not abnormally severe, and where ventilation is not too restricted. They do not require fireproof vaults, and hence can be installed close to the load center, eliminating long and costly runs of secondary copper, and improving voltage conditions at the load. All sizes designed for completely metal-enclosed connections, eliminating all exposed live parts.

Kva	Low-voltage Rating	Low-voltage Leads Can Be Connected for
3–167 kva incl	120/240	120 2-wire, 240 2-wire, or 240/120 3-wire
3–100 kva incl	240/480	240 2-wire, 480 2-wire, or 480/240 3-wire
167 kva 3–167 kva incl	240x480 600	240 2-wire, or 480 2-wire 600 2-wire

Service.—Suitable for indoor installation only.

Nameplate Voltage Ratings:

Line No. 1—2400/4160Y to 120/240 No Taps

Line No. 1 Cat. No.	Kva, Cont, 80 C Rise	Type	Price, Each	Approx Ship. Wt, Lb
95G327	3	M	**$185**	96
95G328	5	M	**230**	141
95G329	10	M	**329**	245
95G330	15	D	**402**	325
95G331	25	D	**540**	435
95G332	37.5	D	**694**	595
95G333	50	D	**834**	670

HIGH-VOLTAGE RATINGS, 2400/4160Y

Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 2400	Below 2400
1	120/240	None	(4) 2½%
2	240/480 or 240x480	(2) 2½%	(2) 2½%
3	600	(2) 2½%	(2) 2½%

Line No. 1 Cat. No.	Line No. 2 Cat. No.	Line No. 3 Cat. No.	Kva, Cont, 80 C Rise	Price, Each	Type	Approx Ship. Wt, Lb
95G334	95G343	95G352	3	**$191**	M	101
95G335	95G344	95G353	5	**238**	M	166
95G336	95G345	95G354	10	**341**	M	300
95G337	95G346	95G355	15	**416**	D	345
95G338	95G347	95G356	25	**559**	D	450
95G339	95G348	95G357	37.5	**718**	D	605
95G340	95G349	95G358	50	**863**	D	740
95G341	95G350	95G359	75	**1124**	D	945
95G342	95G351	95G360	100	**1377**	D	1200
.....	29H316	29H322	167	**3666**	AA	2900

FOR 4160-VOLT CIRCUITS

Application.—For indoor service in locations where conditions of dust or moisture are not abnormally severe, and where ventilation is not too restricted. They do not require fireproof vaults, and hence can be installed close to the load center, eliminating long and costly runs of secondary copper, and improving voltage conditions at the load. All sizes designed for completely metal-enclosed connections, eliminating all exposed live parts.

Kva	Low-voltage Rating	Low-voltage Leads Can Be Connected for
3–100 kva incl	120/240	120 2-wire, 240 2-wire, or 240/120 3-wire
3–100 kva incl	240/480	240 2-wire, 480 2-wire, or 480/240 3-wire

Service.—Suitable for indoor installation only.

HIGH-VOLTAGE RATING, 4160

Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 4160	Below 4160
1	120/240	None	(4) 2½%
2	240/480	(2) 2½%	(2) 2½%

Line No. 1 Cat. No.	Line No. 2 Cat. No.	Kva, Cont, 80 C Rise	Price, Each	Type	Approx Ship. Wt, Lb
95G361	95G370	3	**$205**	M	101
95G362	95G371	5	**255**	M	166
95G363	95G372	10	**365**	M	300
95G364	95G373	15	**446**	D	345
95G365	95G374	25	**600**	D	450
95G366	95G375	37.5	**770**	D	605
95G367	95G376	50	**925**	D	740
95G368	95G377	75	**1205**	D	945
95G369	95G368	100	**1476**	D	1200

G-E TYPES M, D, AND AA DRY-TYPE DISTRIBUTION TRANSFORMERS

Single-phase, 60 Cycles, Air-cooled

FOR 4800-VOLT CIRCUITS

Application.—For indoor service in locations where conditions of dust or moisture are not abnormally severe, and where ventilation is not too restricted. They do not require fireproof vaults, and hence can be installed close to the load center, eliminating long and costly runs of secondary copper, and improving voltage conditions at the load. All sizes designed for completely metal-enclosed connections, eliminating all exposed live parts.

Kva	Low-voltage Rating	Low-voltage Leads Can Be Connected for
3–167 kva incl	120/240	120 2-wire, 240 2-wire, or 240/120 3-wire
3–100 kva incl	240/480	240 2-wire, 480 2-wire, or 480/240 3-wire
167 kva	240x480	240 2-wire, or 480 2-wire
3–167 kva incl	600	600 2-wire

Service.—Suitable for indoor installation only.

Nameplate Voltage Ratings:

Line No. 1—4800 to 120/240 No Taps

Line No. 1 Cat. No.	Kva, Cont, 80 C Rise	Type	Price, Each	Approx Ship. Wt, Lb
95G379	3	M	**$204**	120
95G380	5	M	**253**	200
95G381	10	M	**362**	340
95G382	15	D	**442**	380
95G383	25	D	**594**	475
95G384	37.5	D	**763**	670
95G385	50	D	**916**	720

HIGH-VOLTAGE RATING, 4800

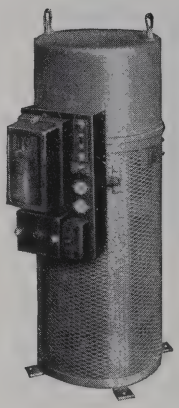
Line No.	Low Voltage	High-voltage Taps (Rated Kva)	
		Above 4800	Below 4800
1	120/240	None	(4) 2½%
2	240/480 or 240x480	(2) 2½%	(2) 2½%
3	600	(2) 2½%	(2) 2½%

Line No. 1 Cat. No.	Line No. 2 Cat. No.	Line No. 3 Cat. No.	Kva, Cont, 80 C Rise	Price, Each	Type	Approx Ship. Wt, Lb
95G386	95G395	95G404	3	**$210**	M	125
95G387	95G396	95G405	5	**261**	M	205
95G388	95G397	95G406	10	**374**	M	350
95G389	95G398	95G407	15	**456**	D	395
95G390	95G399	95G408	25	**613**	D	490
95G391	95G400	95G409	37.5	**787**	D	690
95G392	95G401	95G410	50	**946**	D	750
95G393	95G402	95G411	75	**1232**	D	1045
95G394	95G403	95G412	100	**1510**	D	1300
29H334	.....	.....	167	**4066**	AA	3100
.....	.....	29H346	167	**3834**	AA	3100
.....	29H340	.....	167	**3884**	AA	3100

G-E TYPE AIRS INDUCTION VOLTAGE REGULATORS

For Indoor Service

Single-phase, 60 Cycles, Air-cooled



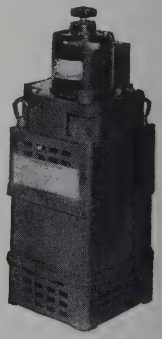
Large automatic

This is an indoor-type, natural-draft, air-cooled, induction voltage regulator for secondary-circuit regulation and for testing and industrial service.

Automatic regulators can be used where lighting and power are both supplied from the same source; the regulator will maintain illumination at correct levels by compensating for voltage drop caused by changes in lighting loads, or changes in load on the power feeders.

Hand-operated or manually controlled motor-operated regulators can be used wherever a convenient source of variable voltage is required for various industrial processes. For complete information, ask for Bulletin GEA-3057.

Small hand-operated



Small motor-operated

For Secondary-circuit Regulation
Continuous Rated, Automatically Operated
10% Raise and 10% Lower Regulation
120 Volts

Cat. No.	List Price, Each	Kva, Cont, 55 C Rise	Load. Amp at ± 10% Regulation	Ship. Wt Lb
73X766	**$980.00**	1.2	100	*150
73X767	**1094.00**	2.4	200	*170
73X768	**1203.00**	3.6	300	*250
73X769	**2489.00**	6	500	540
73X770	**2720.00**	9	750	705
73X771	**2949.00**	12	1000	870

For continuation of table and footnotes, see following page.

G-E TYPE AIRS INDUCTION VOLTAGE REGULATORS—Continued

For Indoor Service

Single-phase, 60 Cycles, Air-cooled
For Secondard-circuit Regulation
Continuous Rated, Automatically Operated
10% Raise and 10% Lower Regulation
For 240, 240/120, 480, and 600 Volts

Cat. No.	List Price, Each	Kva, Cont, 55 C Rise	Load, Amp at ±10% Regulation	Ship. Wt
†240 Volts—5/10%; or 240/120 Volts, 3-wire—10%				
73X772	**$980.00**	1.2	50/50	*150
73X773	**1094.00**	2.4	100/100	*170
73X774	**1203.00**	3.6	150/150	*250
73X775	**2489.00**	6	250/250	540
73X776	**2720.00**	9	375/375	705
73X777	**2949.00**	12	500/500	870
480 Volts				
‡73X778	**$980.00**	1.2	25	*150
‡73X779	**1094.00**	2.4	50	*170
73X780	**1203.00**	4.8	100	540
73X781	**2489.00**	7.2	150	705
73X782	**2720.00**	9.6	200	870
73X783	**2949.00**	12	250	870
600 Volts				
‡73X784	**$1009.00**	1.5	25	*150
‡73X785	**1149.00**	3	50	*205
73X786	**2489.00**	6	100	540
73X787	**2720.00**	9	150	705
73X788	**2949.00**	12	200	870

* Weights do not include control panel, which is separately mounted Shipping weight of control panel is 35 pounds.
† These regulators have 2 series windings, each of which will carry 50% of the rated kva.
‡ Require an extra potential transformer for the contact-making voltmeter. For 480-volt regulators, standard potential transformer Cat. No. 86X773 can be supplied at $34.00 each. For 600-volt regulators, standard potential transformer Cat. No. 86X774 can be supplied at $35.00 each.
Any of the above regulators can be supplied equipped for line-drop compensation at a price addition of $220.00 each.

For Testing and Industrial Service
Rated for Intermittent (1-hr) Service
100% Raise and 100% Lower Regulation
Hand-operated—120/240 Volts

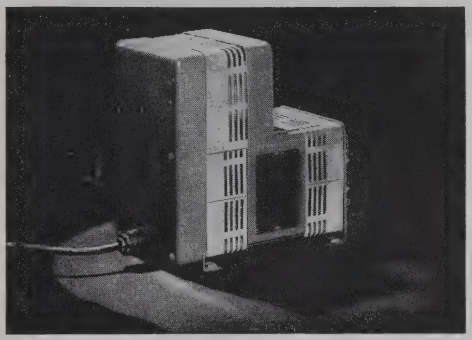
Cat. No.	List Price, Each	Kva, Cont, 55 C Rise	Load, Amp at ±100% Regulation		Ship. Wt, Lb
			120 V	240 V	
73X762	**$523.00**	2.4	20	10	140
73X763	**637.00**	4.2	35	17.5	195
73X764	**692.00**	6	50	25	240
73X765	**1906.00**	12	100	50	620
Motor-operated—120/240 Volts					
73X804	**$593.00***	2.4	20	10	150
73X805	**707.00***	4.2	35	17.5	205
73X806	**762.00***	6	50	25	250
73X807	**2082.00***	12	100	50	670

* These prices do not include a motor-control switch. For this service, a raise-and-lower push-button station, CR2940-AA102, is recommended.

G-E INDUCTROLS

SMALL DRY-TYPE, INDUCTION VOLTAGE REGULATORS FOR INDOOR SERVICE

Single-phase, 60 Cycles, Air-cooled



Automatically operated Inductrol

These inductrols are for use in industrial and electronic applications. Automatically operated where voltage or current is to be maintained within narrow limits; hand-operated where a source of smoothly variable voltage or current is required, easily controllable by hand.

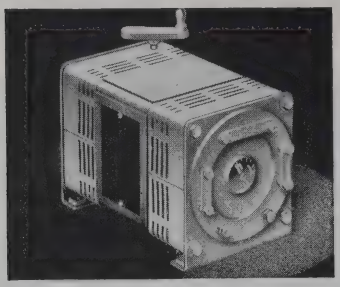
Because of their excellent appearance, great mechanical strength, light weight, and small size, these sturdy inductrols are well-suited for use in factories, laboratories, and schools, as well as for hundreds of built-in applications and others which may include motor speed control, heat control, illumination control, dielectric testing, rectifier control, calibrating instruments, and compensating voltages. For complete information, ask for Bulletin GEA-4508.

Automatically Operated

Volt-amperes, Continuous, 55 C Rise	Cat. No.	* List Price, Each	Raise and Lower Regulation				† Approx Ship. Wt, Lb
			Per Cent	Amperes	Per Cent	Amperes	
120 Volts							
300	31D340	**$683**	10	25	.....	.....	54
300	31D341	**683**	15	16.7	.....	.....	
600	31D342	**712**	10	50	.....	.....	71
600	31D343	**712**	15	33.4	.....	.....	
240 Volts							
300	31D344	**$683**	10	12.5	5	25	54
300	31D345	**683**	15	8.3	7.5	16.7	
600	31D346	**712**	10	25	5	50	71
600	31D347	**712**	15	16.7	7.5	33.4	

* Prices include control panel.
† Weights do not include control panel, which is mounted separately from the regulator. Control panel weights are: ship. 35 lb; net, 30 lb.

G-E INDUCTROLS—Continued



Hand-operated inductrol

Hand Operated

Volt-amperes, Continuous, 55 C Rise	Cat. No.	List Price, Each	Connected for (Volts)	Raise and Lower Regulation				Approx Ship. Wt, Lb
				Per Cent	Amperes	Per Cent	Amperes	
120/240 Volts								
300	31D300	$176	120	20	12.5	10	25	40
			240	10	12.5	5	25	
300	31D301	176	120	30	8.3	15	16.6	
			240	15	8.3	7.5	16.6	
600	31D302	205	120	20	25	10	50	58
			240	10	25	5	50	
600	31D303	205	120	30	16.7	15	33.4	
			240	15	16.7	7.5	33.4	
1200*	31D304	205	120	200†	5	100	10	
			240	100	5	50	10	

* Rated for intermittent (1-hour service).

† 200 per cent raise and 100 per cent lower regulation.

G-E PYRANOL CAPACITORS

FOR LOW-VOLTAGE INDUSTRIAL APPLICATIONS

Dust-tight for Indoor Service, Class DTSR

Single-phase or Polyphase
230 Volts—15 to 180 Kvar
460 and 575 Volts—30 to 360 Kvar

For Outdoor Service—Class LSO

Single-phase or Polyphase
230 Volts—30 to 90 Kvar
460 and 575 Volts—60 to 180 Kvar

For use where small blocks of kilovars requiring a group of individual units, are desired. These equipments are available for indoor service, outdoor service, or in dust-tight designs for use in textile mills, grain elevators, feed mills, etc.

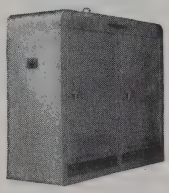
Dust-tight design for indoor service, Class DTSR

In the improvement of plant power factor, it is very often desired to locate capacitor equipment in one group on the low-voltage circuit, or perhaps in several smaller groups, governed by the particular plant arrangement and engineering considerations. The total kva rating generally exceeds the output of a single individual capacitor unit. For such applications, a group is mounted in a housing, and provided with buses for the connection of the individual units to one another, and to the line. For further information, ask for Bulletin GEA-2742.

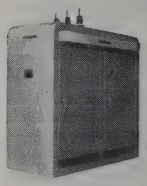
G-E LARGE CAPACITOR EQUIPMENTS

For Indoor Service—Class LLI
For Outdoor Service—Class LLO

Single-phase or Polyphase
230 Volts—180 to 630 Kvar
460 and 575 Volts—360 to 1260 Kvar



Class LLI, for indoor service



Class LLO, for outdoor service

Large capacitor equipments (Classes LLI and LLO) afford a means of applying large blocks of kilovars as, for example, in substations or large industrial plants. These equipments are available for either indoor or outdoor service. The units are easily accessible through hinged doors in the sides, and adequate ventilation is assured through screened openings in the housings.

For complete information, ask for Bulletin GEA-2742.

G-E ENCLOSED CAPACITOR UNITS

For Low-voltage Industrial Application

Single-phase or Polyphase, 60 Cycles

230 Volts, 0.5 to 7.5 Kvar
460 and 575 Volts, 10 to 15 Kvar

Dust-tight design, Class EDT

Weather-tight design, Class EWT

These units are for indoor and outdoor applications for improvement of power factor directly at individual motors or other small loads. Group installations, consisting of a small number of enclosed units, can be made if the kilovars required exceed those of a single unit.

For larger loads, enclosed units may be grouped in a bank and in these applications small housed units (Class HSI or DTSR) are recommended. For further information, ask for Bulletin GEA-2742.

G-E PYRANOL CAPACITORS

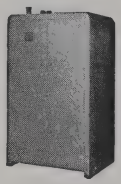
For High-voltage Industrial & Substation Applications

SMALL CAPACITOR EQUIPMENTS

For Indoor Service—Class HSI
Pole Type, for Outdoor Service—Class PT

Single-phase or Polyphase
2400/4160Y Volts, 45-180 Kvar
4800 and 7200 Volts, 90 and 180 Kvar

Class HSI equipments are for use on indoor circuits where small blocks of power - factor - improvement capacity are desired.

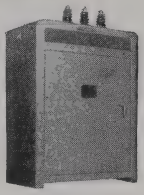


Class HSI, for indoor service

In the application of capacitors on circuits of 2300 volts and higher in small industrial plants, ratings 180 kvar and less are often desired. The small equipments (Class HSI) are ideal for this purpose, and in large plants a number of these installed at various load centers may prove more advantageous than one large equipment.

Class PT equipments are for use on outdoor circuits where small blocks of power-factor-improvement capacity are desired.

In applying capacitors on outdoor primary circuits for small industrial plants, ratings 180 kvar and less are often desired for either pole or platform mounting. This is especially the case where the power is metered on the primary side of the transformer bank. The pole-type equipments (Class PT) are ideal for this purpose, and in larger plants, a number of these installed at various points may prove more advantageous than one large equipment.



Class PT, pole type for outdoor service

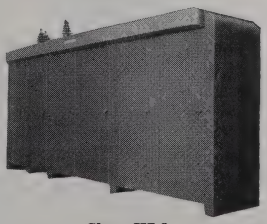
The Class PT equipments for this service have been designed after careful consideration of the general practices throughout the nation in the construction and voltage rating of outdoor overhead distribution systems.

LARGE CAPACITOR EQUIPMENTS

For Indoor and Outdoor Service—Class HLO

Single-phase or Polyphase
2400-13,800 Volts
600-5100 Kvar

Large capacitor equipments (Class HLO) afford a means of applying large blocks of power-factor-improvement capacity which are frequently desirable in substations or large industrial plants. These equipments are available for either indoor or outdoor service.



Class HLO, for indoor and outdoor service

The illustration shows a completely assembled capacitor equipment with the circuit breaker enclosed in the housing.

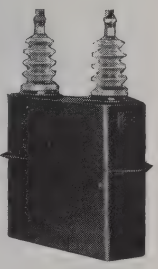
For complete information, ask for Bulletin GEA-2860.

G-E PYRANOL CAPACITORS

Individual Pole-type Units—Class ID

Single- or Three-phase, 60 Cycles
230 to 13,800 Volts, 2.5 to 25 Kvar

Compact and easily installed with hangers available for crossarm mounting or for direct bolting to the pole, the Class ID design is especially suited for gaining kw carrying capacity and reducing voltage drop on distribution circuits.



Class ID units permit extremely effective distribution of the capacitor kvar in small blocks and at many points over an entire feeder. In small blocks, they supply reactive kva economically and with great flexibility for future arrangement.

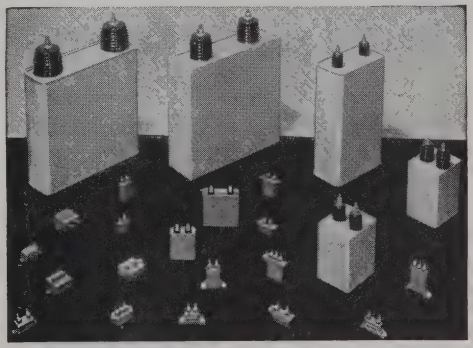
For further information, ask for Bulletin GEC-701.

G-E PYRANOL CAPACITORS

Fixed Paper-dielectric Capacitors for D-c Applications

Commercial Standards

100 to 100,000 Volts, D-c—0.01 to 75 Microfarads



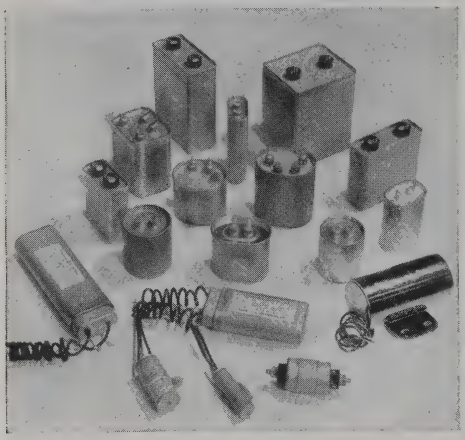
These fixed paper-dielectric capacitors for d-c service are available for a complete field of applications, from the small units for radio-transmitter service to the high-voltage units for impulse-generator and heavy-duty x-ray equipment.

Strict quality control, new manufacturing techniques, and improved materials, the basis of the excellent wartime records of G-E d-c capacitors, are now incorporated into a new line of Pyranol capacitors designed and built to meet the most rigorous commercial requirements. This new line makes possible a broad selection of sizes, ratings, and mounting arrangements, with characteristics which permit operation over a wide temperature range (+ 85 C to —55 C), at altitudes up to 7500 feet. Ask for Bulletin GEA-2621.

G-E PYRANOL CAPACITORS

For A-c Applications—Commercial Standards—

236, 330, 440, 660 Volts, 60 Cycles
1 to 50 Microfarads

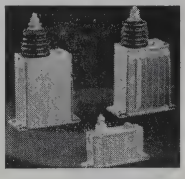


These small a-c capacitors are available for a complete field of applications, including installation with motors, luminous-tube transformers, fluorescent-lamp ballasts and industrial control. Units are constructed in drawn or fabricated rectangular and cylindrical cases of terneplate and zinc. All units are hermetically sealed and equipped with molded Textolite or silicon bushings and solder-lug terminals. These capacitors can be operated in any position, and their minimum size and weight make them superior for built-in applications. Ask for Bulletin GEA-2027.

G-E HIGH-FREQUENCY CAPACITORS

CLASS HFBL PAPER-DIELECTRIC CAPACITORS

For Blocking and By-pass Applications
5000, 15,000, 20,000 Volts, D-c



Class HFBL paper-dielectric capacitors are for use in electronic oscillator circuits of high-frequency induction-heating equipments. These capacitors may also be used advantageously in other high-frequency circuits of a similar nature.

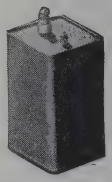
G-E high-voltage paper-dielectric capacitors are of relatively high capacitance for high-frequency units, and yet they are more economical than conventional high-frequency units of considerably smaller capacitance values. They can, therefore, be applied with savings in cost, as well as with reduced losses and lower voltage drop across the capacitor.

Ask for Bulletin GEA-4388.

G-E PYRANOL CAPACITORS

ENERGY-STORAGE AND -DISCHARGE CAPACITORS

2000 to 6000 Volts, D-c
12.8 to 100 Microfarads



General Electric d-c Pyranol capacitors for light-duty energy-storage applications are the result of years of experience in the design and manufacture of capacitors for this type of service. The use of Pyranol provides a relatively small, lightweight, stable capacitor which has a life consistent with the application involved. They are completely liquid-filled and hermetically sealed in terneplate containers. Their gray-lacquer finish is attractive, durable, and corrosion-resistant. For complete information, ask for Bulletin GEA-4646.

G-E CAPACITORS TO MEET JOINT ARMY-NAVY SPECIFICATION JAN-C-25

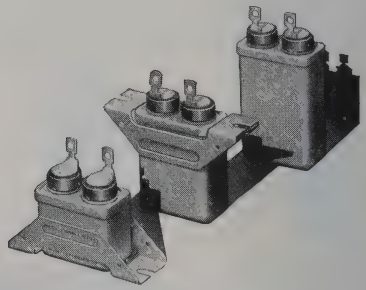
100 to 12,500 Volts, D-c—0.01 to 15 Microfarads
Fixed Paper-dielectric Capacitors

These fixed paper-dielectric capacitors are designed to meet the rigid requirements of the joint Army-Navy specifications for use in electronic equipment for the armed forces. Hermetically sealed in metallic containers, these capacitors for d-c applications are available in Characteristic E Cases and Characteristic F, Cases CP-40, -53, -54, -55, -61, -63, -67, -69, and -70.

Ask for Bulletin GEA-4357.

G-E PERMAFIL CAPACITORS

For High-temperature Operation
400 Volts, D-c—0.1 to 1.0 Microfarads



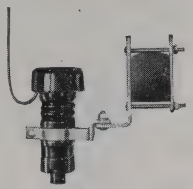
Permafil d-c paper dielectric capacitors are especially designed for operation in high ambient temperatures. They require no derating for temperatures up to 125 C. Their function is to provide suitable components for the many recent applications involving operation at ambient temperatures above 85 C.

Hermetically sealed in metallic containers and provided with permanently sealed silicone bushings, permafil capacitors are available in case styles 53, 61, 63, and 65, as covered by Joint Army-Navy Specifications JAN-C-25.

G-E PELLET-TYPE DISTRIBUTION LIGHTNING ARRESTERS

For Circuits 1 to 15 Kv

The electric elements consist of a column of pellets and a series-gap assembly. The pellet column forms the valve element, preventing the flow of system current following discharge, while the series gap isolates the valve element from the line until it is sparked over by a surge.



3-kv pellet arrester, Model No. 9LA10C21, showing EEI-NEMA Standard mounting bracket

The series-gap assembly is sealed within a nitrogen-filled gap chamber, which is entirely isolated from the pellet valve column. This sealed gap chamber filled with dry nitrogen gas prevents the entrance of moisture and makes the arrester independent of atmospheric conditions, thereby assuring permanent freedom from current leakage and corrosion.

9-kv pellet arrester, Model N.o 9LA10C51, with EEI-NEMA bracket

Well-glazed, wet-process porcelains are used in pellet arresters of all ratings. A flexible lead, securely soldered, provides for line connection.

The clamp-type ground terminal permits either one or two solid or stranded ground wires to be clamped to the arrester, eliminating connectors, splicing, soldering, and taping. In this way, both labor and materials are saved.

HANGERS AND MOUNTINGS

Altitude, 0 to 6000 Feet

The EEI-NEMA standard mounting bracket and T bracket which are available for pellet arresters will satisfy virtually all desired mountings of the arresters—alone, in combination with primary fuse cutouts, or on transformer tanks. It will be seen that the pellet-arrester porcelain has two mounting grooves providing for alternate positions of the arresters in either standard or special hangers, making it possible to balance either the clearances or the appearance of the installation. The arrester can be inserted in any hanger either before or after the hanger has been mounted.

Pellet-type Arresters with Standard Hangers*
Table 1—For Systems with Ungrounded Neutral

Model No.	Price, Each	Circuit Voltage Constant Potential		Maximum Permissible Line-to-ground Voltage, Rms	Ship. Wt, Lb
		Min.	Max		
9LA10C11	**$14.00**	300	1000	1000	8
9LA10C21	**17.00**	1000	3000	3000	11
9LA10C41	**27.00**	3000	6000	6000	17
9LA10C51	**34.00**	6000	9000	9000	26
9LA10C61	**51.00**	9000	12000	12000	31
9LA10C71	**66.00**	12000	15000	15000	37

Table 2—For Systems with Solidly Grounded Neutral

9LA10C21	**$17.00**	3000	5000	3000	11
9LA10C41	**27.00**	5000	9000	6000	17
9LA10C51	**34.00**	9000	12800	9000	26
9LA10C61	**51.00**	12800	15000	12000	31
9LA10C71	**66.00**	15000	18000	15000	37

Table 3—For Single-phase Circuits with One Conductor—Solidly Grounded at Source and Multigrounded along Line

Model No.	Price, Each	Primary-circuit Operating Voltage	Maximum Permissible Line-to-ground Voltage, Rms	Ship. Wt, Lb
9LA10C21	**$17.00**	2400–2500	3000	11
9LA10C41	**27.00**	4800–5000	6000	17
9LA10C51	**34.00**	6900–7200	9000	26
9LA10C81	**34.00**	7620–7940	10000	27

Number of Arresters Required at Installation

For Table 1. Use two arresters at each single-phase installation. Use three arresters at each 3-phase installation.

For Table 2. Use one arrester on phase wire at a single-phase installation made between phase wire and neutral. Use also on neutral wire, a neutral gap if voltage to ground is not over 300 volts; if, because of unbalancing, voltage is between 300 and 1000 volts, use Model No. 9LA10C11, 9LA10CA11, or 9LA10CB11 arrester, depending on altitude. Use two arresters at a single-phase installation between outside phase wires. Use three arresters at each 3-phase installation.

For Table 3. Use one arrester at each installation.

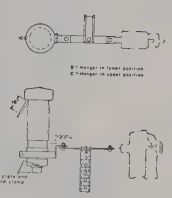
Pellet-type Arresters with Standard Hangers*
Table 4—For Protection of Load Side of A-c Series-lighting Transformers

Model No.	Price, Each	Kva Rating of Transformers, Secondary Amperes (6.6 and 7.5)	Approx Ship. Wt, Lb
9LA10C11	**$14.00**	1, 2, 3	8
9LA10C21	**17.00**	5, 7.5, 10, 15	11
9LA10C41	**27.00**	20, 25, 30	17
9LA10C51	**34.00**	35, 40	26
9LA10C61	**51.00**	50	31
9LA10C71	**66.00**	60, 70	37

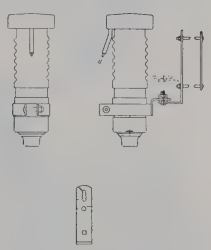
Pellet-type Arresters with Special Hangers
Table 5

Arrester Model No. with EEI-NEMA Standard Mounting Bracket, Style A	Arresters of Equivalent Rating with SPECIAL HANGERS	
	Model No.	Type of Hanger
9LA10C21	9LA10C28	Combination Pole, Style B
9LA10C41	9LA10C48	Combination Pole, Style B
9LA10C51	9LA10C58	Combination Pole, Style B
9LA10C61	. . . . .	. . . . .
9AA10C71	. . . . .	. . . . .
9LA10C81	9LA10C88	Combination Pole, Style B

Special Hangers



Combination pole hanger, Style B



EEI-NEMA Standard mounting bracket, Style E

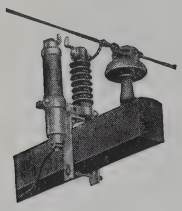
In addition to the EEI-NEMA Standard mounting bracket listed above, pellet arresters are available with special hangers, as shown in the sketches. Arresters with special hangers have the same price as arresters of the same rating with standard mounting brackets. To determine the number of an arrester with a special hanger, first select the standard arrester from Table 1, 2, 3, or 4, and then refer to Table 5 for the number of the corresponding arrester with the special hanger desired. For complete description, ask for Bulletin GEA-2975.

* These arresters in the Model No. 9LA10C-series include the new EEI-NEMA Standard mounting bracket. For outline drawing, see Style E.

G-E HI-STROKE RURAL LIGHTNING ARRESTER

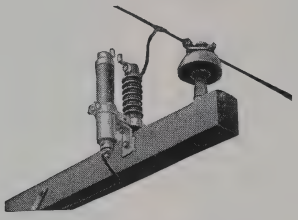
The G-E Hi-stroke arrester is a heavy-duty expulsion-type arrester, having exclusive features of construction. Designed specifically for rural systems, it has high lightning discharge capacity and combines an efficiency in impulse protective level and long operating life heretofore unavailable in expulsion-type arresters. Hi-stroke arresters for separate mounting utilize the same arrester element (0-1200 amperes rms interrupting rating) and have the same performance characteristics as those furnished since 1944 on Type HBA rural-line transformers and which have already established an excellent service operating record on many rural systems.

Separate Mounting



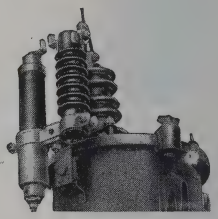
Arrester for mounting on crossarm, using clamp-type hanger

Circuit Volts	Model No.	Price, Each	Approx Wt, Lb	
			Net	Ship.
4800	9LA17B21	$27	9	11
7200\ 7620/	9LA17B31	34	9½	12



Arrester for mounting on crossarm, using bracket for through-bolt or lag screw

Circuit Volts	Model No.	Price, Each	Approx Wt, Lb	
			Net	Ship.
4800	9LA17B22	$27	7½	10
7200\ 7620/	9LA17B32	34	8	11

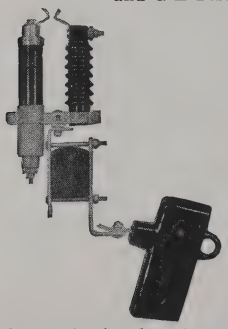


Arrester for transformer mounting*

Circuit Volts	Model No.	Price, Each	Approx Wt, Lb	
			Net	Ship.
7200\ 7620/	9LA17B32*	$34	8	11

* Interchangeable with 9-kv pellet arrester mounted on tank bracket of early designs of Type HBA, 7200-volt, single-bushing transformers.

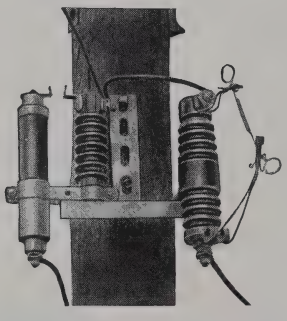
Typical Combination Mountings of Hi-stroke Arrester and G-E Distribution Fuse Cutouts



Hi-stroke arrester for clamp-type cross arm mounting† with G-E enclosed primary fuse cutout

TABLE 1

	Circuit Volts	Model No.	Price, Each	Approx Wt, Lb	
				Net	Ship.
Arrester & clamp	4800	9LA17B21	$27	9	11
Cutout & hanger	4800	9F19A11	10.75	8	10
Arrester & clamp	7200 / 7620	9LA17B31	34	9½	12
Cutout & hanger	7500§	9F19A21	13.60	11	13

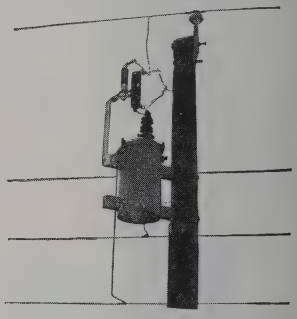


Hi-stroke arrester with T-bracket‡ for direct-to-pole mounting with G-E flip-open fuse cutout

TABLE 2

	Circuit Volts	Model No.	Price, Each	Approx Wt, Lb	
				Net	Ship.
Arrester & bracket	4800	9LA17B23	$27	14	15
Arrester & bracket	7200 / 7620	9LA17B33	34	14½	16
Cutout	7500§	9F17C21	11	8	10

Unit-combination Arrester & Cutout for Rural Lines



Unit-combination shown with mounting bracket for transformer installations

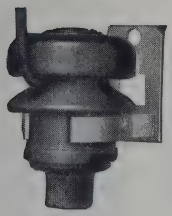
TABLE 3

Circuit Volts: 7200/12470 GrY 7620/13200 GrY			Approx Wt, Lb	
Mounting Brakcet for	Cat. No.	Price, Each	Net	Ship.
Transformer Mounting	9FLA1A281	$41	14¼	17½
Crossarm Mounting	9FLA1A21¶	$41	12¼	15½

†Will also accommodate flip-open cutouts listed in Table 2 or open-type dropout cutouts.
‡Will also accommodate enclosed cutouts listed in Table 1 and open-type dropout cutouts.
§Cutouts rated 7.8 kv max. can be used on grounded-neutral circuits where the voltage that an *individual* cutout is required to interrupt does not exceed 7.8 kv rms.
¶Includes EEI-NEMA Standard mounting bracket for crossarm or direct-to-pole mounting.

G-E NEUTRAL GAPS

Altitude, 0 to 6000 Feet



Model No. 9LA11A1

Cat No. 146187

These neutral gaps are plain gaps having an impulse sparkover voltage of about 11 kv crest on the AIEE standard impulse test, and embody no valve element. They are for application on the neutral wire of the usual grounded-neutral 3-phase, 4-wire primary systems, where the neutral-wire voltage to ground does not exceed 300 volts, rms.

Model No. 9LA11A1 embodies the same desirable features of construction and mounting that are incorporated in the standard pellet arresters for protection of the phase wires.

Cat. No. 146187, being less expensive, does not possess the refinements of Model No. 9LA11A1. Unit has a ground lead similar to the line lead, and is mounted on crossarm by wood screws.

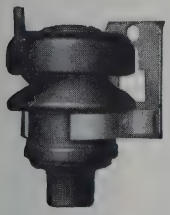
*Model No.	Price, Each	Ship. Wt, Lb
9LA11A1	**$6.50**	4
146187 (Cat. No.)	**4.00**	1.3

* Use on neutral wire of 3-phase, 4-wire circuits having the neutral solidly grounded only at the substation, if voltage of neutral wire to ground is not over 300 volts rms. If, because of unbalancing, voltage of neutral wire is between 300 and 1000 volts, use Model No. 9LA10B1 pellet arrester. Use standard pellet arresters on phase wires.
For complete description ask for Bulletin GEA-2975.

G-E ISOLATING GAPS

For Distribution Circuits, 15 Kv and Below

G-E porcelain-enclosed isolating gaps effect efficient interconnection through a gap, where it is desired to isolate the primary lightning-arrester ground from the secondary neutral. These gaps can also be used wherever distribution-transformer tanks are to be grounded through a gap.



Model No. 9LA11A1, A2, and A3 with mounting hanger

Model No. 9LA11A5, A7, and A9 with mounting hanger

Standard spark-potential ratings have been established at 6, 11, and 15 kv, rms. These ratings are average values subject to about 10 per cent tolerance, plus or minus.

Model No. 9LA11A1, A2, and A3 gaps are sturdily constructed, and have no exposed live parts. Model No. 9LA11A5, A7, and A9 gaps are smaller, and designed for mounting on a pole, crossarm, transformer tank, or for suspension from a line conductor.

Model No. 9LA11A1 gap (6 kv spark potential) is recommended as a primary-neutral arrester for protecting the neutral side of distribution transformers operating on grounded-neutral systems with the system neutral grounded only at the substation, and where the neutral potential does not exceed 300 volts, rms.

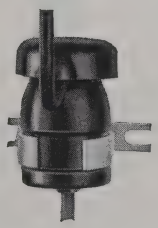
Model No.	Price, Each	Primary-circuit Voltage	60-Cy, Rms, Spark Potential, Kv	Impulse Spark Potential, Kv
9LA11A1	**$6.50**	†2400	6	11
9LA11A2	**6.50**	†6900, ‡8320 and Higher-voltage Circuits	15	25
LA11A3	**6.50**	‡4160 and †4800	11	17.5
LA11A5	**5.00**	†2400	6	11
LA11A7	**5.00**	‡4160 and †4800	11	17.5
LA11A9	**5.00**	†6900, ‡8320 and Higher-voltage Circuits	15	25

† Isolated neutral.
‡ Grounded neutral.
For complete description, ask for Bulletin GEA-2976.

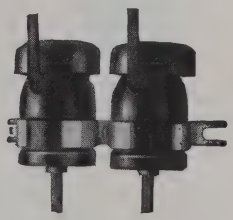
G-E LOW-VOLTAGE PELLET-TYPE LIGHTNING ARRESTERS

0 to 650 Volts—Altitude, 0 to 6000 Feet

For outdoor service, crossarm or pole mounting, on railway-signal lines or secondary power lines, for protection of railway-signal transformers, distribution-transformer secondaries, autotransformer boosters, cables, and other line apparatus in the 0- to 650-volt class.



Model No. 9LA10A202 single-pole pellet arrester with mounting bracket



Model No. 9LA10A204 double-pole pellet arrester with mounting bracket

The single-pole arrester unit consists of a series gap and a pellet valve column completely housed in a wet-process porcelain container.

The double-pole arrester consists of two single-pole units mounted in a single hanger. This arrester is economically advantageous on single-phase, 2-wire circuits.

G-E LOW-VOLTAGE PELLET-TYPE LIGHTNING ARRESTERS—Continued

Model No.	Price, Each	No. of Poles	Circuit Voltage Rating, Rms	Maximum Permissible Line-to-ground Voltage, Rms	Ship. Wt, Lb
*9LA10A202	**$6.50**	1	0–650	650	2
†9LA10A204	**13.00**	2	0–650	650	4

* Use two arresters at each single-phase installation and three arresters at each 3-phase installation.

† Use one arrester at each single-phase installation.

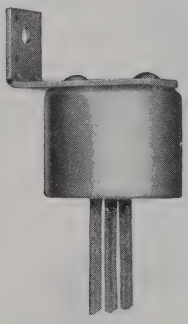
G-E PELLET METER OR SERVICE PROTECTORS

115/230 Volts—Altitude, 0 to 6000 Feet

The indoor protector is designed to permit direct mounting in the knockout holes of a service switch, fuse box, meter-connection cabinet, or meter case. In some applications, it may be preferable to locate the protector on the building wall at the point where the exposed secondary circuit enters the conduit gooseneck or the service cap of the enclosed service wiring. Therefore, another design is provided for such separate outdoor mounting.

For 115-volt, single-phase, 2-wire; or 115/230-volt, single-phase, 3-wire grounded-neutral, secondary services. For indoor or outdoor service.

Model No. 9LA15A1 pellet protector for direct metal-clad mounting to bottom knockout hole



Pellet protector with bracket for separate mounting, Model No. 9LA15A4

Model No.	Price, Each	Maximum Permissible Line-to-ground Voltage, Rms	Type of Mounting	Net Wt, Lb
9LA15A1	**$9.50**	175	Mounting to Bottom Knockout Hole	2
9LA15A4	**5.00**	175	Separate Bracket Mounting	2½

For complete description, ask for Bulletin GEA-2977.

G-E THYRITE METER OR SERVICE PROTECTORS

0 to 650 Volts—Altitude, 0 to 6000 Feet

For protection of watthour meters, industrial power-service entrances, or consumer apparatus and appliances on single-phase or polyphase secondary circuits or services in the 0- to 650-volt class.

The case of the protector is of aluminum. Each single-pole assembly has a series gap and a Thyrite disk valve element 3 inches in diameter and 5/16 inch thick. These single-pole elements are mounted in a Textolite container, and one, two, or three of these assemblies (for single-, double-, or three-pole protectors respectively) are sealed within the outer aluminum case. The side of the case bears complete nameplate data.

Thyrite protector, three-pole, for indoor installation, Model No. 9LA15A13

Thyrite protector, three-pole, for outdoor installation, Model No. 9LA15A23

Indoor Service—For Mounting to Knockout Hole

The indoor design is arranged for mounting directly in a knockout hole in the meter case or connection box.

Model No.	Price, Each	No. of Poles	Circuit Voltage Rating, Rms	Maximum Permissible Line-to-ground Voltage, Rms	Net Wt, Lb
9LA15A11	**$16.00**	1	0–650	650	4
9LA15A12	**22.00**	2	0–650	650	4½
9LA15A13	**25.00**	3	0–650	650	5

Outdoor Service—For Separate Bracket Mounting

The outdoor design is provided with a bracket for separate mounting as illustrated.

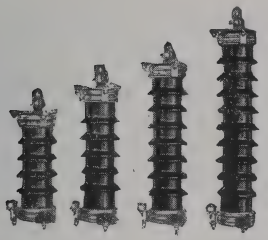
Model No.	Price, Each	No. of Poles	Circuit Voltage Rating, Rms	Maximum Permissible Line-to-ground Voltage, Rms	Net Wt, Lb
9LA15A21	**$18.00**	1	0–650	650	4½
9LA15A22	**24.00**	2	0–650	650	5
9LA15A23	**27.00**	3	0–650	650	5½

Number of Arresters Required at Installation

Use two single-pole arresters at each single-phase installation. Use three single-pole arresters at each 3-phase installation. Use one 2-pole arrester at each single-phase installation. Use one 3-pole arrester at each 3-phase installation.

G-E THYRITE LINE-TYPE LIGHTNING ARRESTERS

For Circuits 20 to 73 Kv, Altitudes 0 to 6000 Feet



Model No. 9LA2G59 to 9LA2G62 inclusive

The G-E Thyrite line-type arresters afford economical lightning protection for small substations and apparatus on systems in the voltage range from 20 to 73 kv. Their low cost, small physical size, light weight, good impulse protective characteristics, features of mechanical design for flexibilities of applications, and a variety of mountings make these arresters particularly adaptable to, and commensurate with, the numerous small or medium-sized substations where the economic considerations do not justify the larger and more expensive station-type Thyrite arresters.

The impulse sparkover voltage to start discharge and the IR voltage drop during discharge are about equal and are well below impulse basic-insulation levels or standard impulse-test levels of modern transformers and other apparatus. On AIEE standard impulse test, the arresters will limit the impulse voltage to about 2.5 times the crest value or reseal rating of the arrester.

Thyrite disk valve elements, combined with the Thyrite shunted series gaps, result in limiting both magnitude and duration of power follow-current after discharge. The excellent valve characteristics interrupt the small power follow-current in not more than a half cycle.

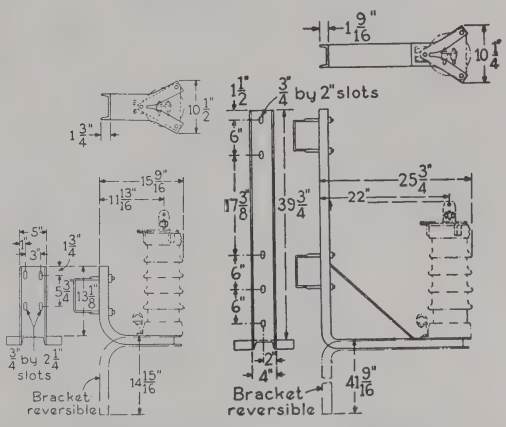
The standard arresters are designed for direct base mounting, either on foundations or on substation steel members.

By the addition of mounting brackets, the arresters are easily mounted on a single crossarm, on a substation wall, or on structure cross members.

The addition of an eyebolt cap fitting permits suspension mounting.

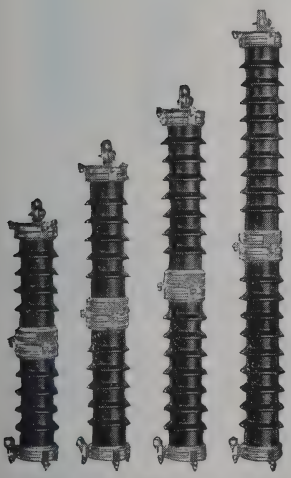
For complete description, ask for Bulletin GEA-2978.

Mounting Accessories



Cat. No. 5213764G3 bracket for single-crossarm mounting

Cat. No. 5213764G1 bracket for two-crossarm or station-structure mounting



Model No. 9LA2G63 to 9LA2G66 inclusive

Table 1—For Systems with Ungrounded Neutral

Model No.	Price, Each	Normally Used on System Voltage, Class-Kv	Maximum Permissible Line-to-ground Voltage, Rms	Ship. Wt, Lb
9LA2G59	**$116.00**	18	20,000	65
9LA2G60	**144.00**	23	25,000	75
9LA2G61	**174.00**	28.5	30,000	90
9LA2G62	**216.00**	34.5	37,000	105
9LA2G64	**288.00**	46	50,000	150
9LA2G66	**432.00**	69	73,000	210

Table 2—For Systems with Solidly Grounded Neutral

9LA2G59	**$116.00**	23	20,000	65
9LA2G60	**144.00**	28.5	25,000	75
9LA2G61	**174.00**	34.5	30,000	90
9LA2G63	**232.00**	46	40,000	125
9LA2G64	**288.00**	57.5	50,000	150
9LA2G65	**348.00**	69	60,000	175

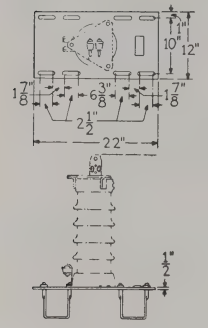
The arresters listed above are for base mounting only.

If mounting accessories are required, they should be specified by Cat. No. from table shown on the following page.

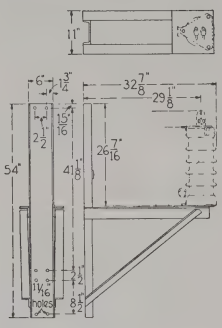
G-E THYRITE LINE-TYPE LIGHTNING ARRESTERS

For Circuits 20 to 73 Kv
Altitude, 0 to 6000 Feet

Mounting Accessories—Continued



Cat. No. 5213764G5 base plate for double-crossarm mounting

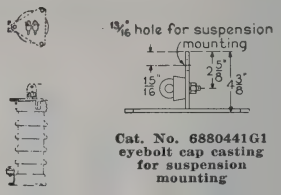


Cat. No. 2981434G7 bracket for station-structure mounting

Cat. No.	Price Addition, Each, When Purchased with Arresters	Description	For Use with Arresters Model No.	Shipping Wt, Lb, Mounting Device Only
*5213764G3	$8.00	Single crossarm Bracket	9LA2G59 9LA2G60 9LA2G61† 9LA2G62†	18
*5213764G1	14.00	Two-crossarm Bracket	9LA2G59 9LA2G60 9LA2G61 9LA2G62 9LA2G63	40
*5213764G5	14.00	Double-crossarm Base Plate	9LA2G59 9LA2G60 9LA2G61 9LA2G62 9LA2G63 9LA2G64 9LA2G65 9LA2G66	45
2981434G7	$28.00	Wall Bracket	9LA2G64 9LA2G65 9LA2G66	100
The standard top cap fitting of all of these arresters has a 3/16-inch diameter hole by which the arrester can be suspended.	None	Eyebolt Cap	9LA2G59 9LA2G60 9LA2G61 9LA2G62 9LA2G63 9LA2G64 9LA2G65 9LA2G66	

* These mountings include crossarm straps or U-bolts for 4-by-5-inch crossarms.

†It is not recommended that these heavier arresters be mounted on a single crossarm, unless the crossarm is one of two parallel double arms or is otherwise mechanically supported to prevent tortional twisting of the arm by the weight of the arrester.



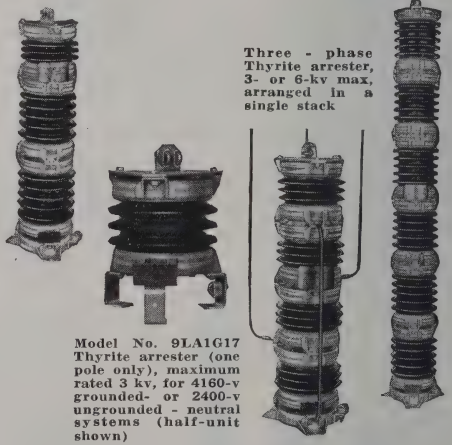
Cat. No. 6880441G1 eyebolt cap casting for suspension mounting

G-E THYRITE STATION-TYPE LIGHTNING ARRESTERS

Altitude, 0 to 6000 Feet

Model No. 9LA1-G30 Thyrite arrester (one pole only) for 34.5-kv grounded - neutral system

Model No. 9LA1-G35 Thyrite arrester (one pole only) for 69-kv ungrounded-neutral system



Three - phase Thyrite arrester, 3- or 6-kv max, arranged in a single stack

Model No. 9LA1G17 Thyrite arrester (one pole only), maximum rated 3 kv, for 4160-v grounded- or 2400-v ungrounded - neutral systems (half-unit shown)

The G-E Form G Thyrite station-type lightning arrester combines refinements of mechanical construction and improved electrical characteristics which establish a new standard of protective efficiency and over-all dependability.

Designed for protection of service continuity as well as apparatus insulation, the Thyrite arrester provides excellent valve performance which prevents system disturbances or outages as the result of lightning discharges.

The Thyrite arrester can be applied indoors or outdoors for the protection of either large or small

G-E THYRITE STATION-TYPE LIGHTNING ARRESTERS—Continued

generating or substation equipment, on either grounded- or ungrounded-neutral systems, and over a voltage range of 2.3 to 287 kv.

The simplicity of design and the small space requirement make this arrester ideal for mounting directly on power transformers and unit substations or for mounting on substation steel structures, as well as on concrete foundations or piers.

Possessing every mechanical and electrical feature known to the art for reliability, endurance, fidelity of protective performance, and economies of application, the Thyrite station-type arrester should be applied at generating stations and substations where either the investment in equipment to be protected or the importance of service continuity warrants the highest degree of protection.

The unexcelled protection record established by Thyrite station type arresters in service operation over the past fourteen years, and the demonstrated economies of their interchangeable unit construction, are notable evidence of the soundness of investing in this class of protection.

Distinctive features of these Thyrite station type arresters include:

Excellent protective efficiency.

Enormous discharge capacity.

Thyrite shunted and shielded gap construction.

Interchangeable unit construction.

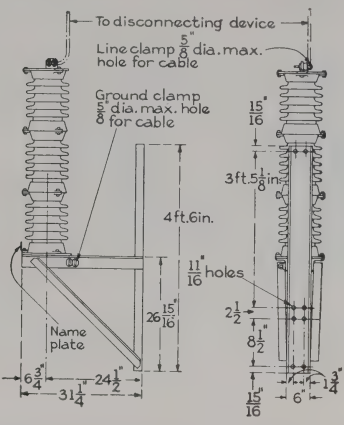
Freedom from moisture or atmospheric influences.

Ease of installation.

The following information applies to single-pole arresters. For 3-phase circuits, use three single-pole arresters.

For complete description, ask for Bulletin GEA-1304.

Parts for Station-type Thyrite Arresters



Cat. No. 2981434G7 bracket for mounting from one to four Thyrite units

Model No.	Price, Each	Description	Max Kv Rating, Rms	Ship. Wt, Lb
§9LA1G4	**$177.00**	Full Unit	12	105
§9LA1G3	**146.00**	Three-quarter Unit	9	100
§9LA1G2	**112.00**	Half Unit	6	90
§9LA1G1	**86.00**	Quarter Unit	3	85
^6880448G1	**10.00**	Cap Only	.....	12
^8306812G2	**24.00**	Base Only	.....	14
^¶2981434G7	**24.00**	Mounting Bracket	.....	75

§ Does not include cap or base castings. ^Cat No.
¶ Can be supplied instead of standard base.

Single-pole Arrester, Model No.	Price, Each	Normally Used on Circuit Voltage, Class		†Max Valve Rating and Maximum Permissible Line-to-ground Voltage, Rms	Approx Ship. Wt, Lb Single-pole Arrester
		Ungrounded Neutral	*Grounded Neutral		
9LA1G17	**$120.00**	2,400	4,160	‡3,000	125
9LA1G18	**146.00**	4160 & 4800	4800 & 6900	‡6,000	130
9LA1G19	**180.00**	6,900	11,500 & 12470	‡9,000	140
9LA1G20	**211.00**	11,500	13,800	‡12,000	150
9LA1G27	**297.00**	13,800	18,000	15,000	240
9LA1G28	**357.00**	18,000	23,000	20,000	245
9LA1G29	**388.00**	23,000	28,500	25,000	260
9LA1G30	**500.00**	28,500	34,500	30,000	355
9LA1G31	**565.00**	34,500	.....	37 000	405
9LA1G32	**651.00**	.....	46,000	40,000	450
9LA1G33	**742.00**	46,000	57,500	50,000	475
9LA1G34	**919.00**	57,500	69,000	60,000	590
9LA1G35	**1096.00**	69,000	.....	73,000	690

* Use only when the system neutral is solidly grounded.
† Select arrester according to "Circuit Voltage." However, the "Maximum Permissible Line-to-ground Voltage" denotes the margin for rises above the normal line-to-ground system voltage, and should be considered for poorly regulated systems or for doubtful reliability of system neutral grounding, or any other operating conditions by which the line-to-ground voltage might exceed this "Maximum Permissible" rating.
‡ Arresters of these ratings can be supplied for mounting in a 3-phase single-stack assembly as shown. If the 3-phase, single-stack mounting is desired, order by the following numbers which include one base casting, one special insulating unit, three single-pole arrester units, and one cap casting

Low-voltage Arresters for Mounting in 3-phase Single-stack Assembly

3-phase Arrester Model No.	Price, Each	Circuit Voltage Rating		Arrester Voltage Rating Rms
		Ungrounded Neutral	Grounded Neutral	
9LA1G22	**$360.00**	2400	4160	3000
9LA1G23	**438.00**	4160 & 4800	4800 & 6900	6000
9LA1G24	**540.00**	6900	11,500	9000
9LA1G25	**633.00**	11,500	13,800	12,000

G-E EQUIPMENT FOR THE LIGHTNING PROTECTION OF A-C ROTATING MACHINES

Thorough studies have advanced the knowledge of protection for a-c rotating machines from lightning voltages. This problem applies to a-c generators, synchronous condensers, and large motors subjected to impulse voltages, either from directly connected exposed overhead lines, or from those transmitted to the machine through transformers.

Lightning protection of a-c rotating machines is obtained by a combination of line-type arresters, located a short distance out from the station on each exposed line which is directly connected to the machine; by special Pyranol filled protective capacitors, and by station-type Thyrite lightning arresters in parallel with the protective capacitors, installed on the bus or at the machine terminals.

This equipment is easily installed and requires no maintenance. The fixed charges are insignificant. When it is considered that as high as 25 per cent of machine failures have been known to be caused by lightning, and that a single machine failure can result in a loss which is far greater in comparison with the cost of protective equipment, adequate protection is plainly a low-cost insurance and a sound investment.

Hundreds of equipments which represent the advanced form of protection from lightning have been applied since 1929. Some of the earliest applications were made for protection of machines which had failed repeatedly from lightning, and since the protective equipment was applied, no further failures have occured.

The table below shows the G-E equipment required for any given service application, and is applicable for protection of machines of practically any type or manufacture.

Machine		For Installation at Machine Terminals or on Machine Bus						For Installation on Directly Connected Exposed Overhead Lines	
		G-E Protective Capacitor for Indoor and Outdoor Service				G-E Station-type Thyrite Arrester for Indoor and Outdoor Service		§G-E Pellet Arresters, Line Type	
Normal Phase-to phase Voltage Rating	¶ Connection	No. of Line Leads	Poles	Cat. No.	Units Required per Installation	Model No.	Units Required per Installation	Model No.	Units Required per Installation
0–650	Single-phase, 1 side grd	3	3	21F830*	1	†9LA15A11*	1	9LA10A202	1
0–650	Single-phase, nongrd	3	3	21F830*	1	†9LA15A12*	1	9LA10A204	1
0–650	3-phase, nongrd or grd Y	3	3	21F830*	1	†9LA15A13*	1	9LA10A202	3
2400	Single-phase, 1 side grd	Clamp-type Terminals	1	18F26	1	9LA1G289	1	9LA10C21	1
2400	Single-phase, nongrd		2	18F27	1	9LA1G289	2	9LA10C21	2
2400	2-phase, 4-wire		2	18F27	2	9LA1G289	4	9LA10C21	4
2400	3-phase, nongrd or grd Y		3	18F28	1	9LA1G289	3	9LA10C21	3
4160	Single-phase, 1 side grd		1	18F107	1	9LA1G290	1	9LA10C41	1
4160	3-phase, nongrd		3	18F58	1	9LA1G290	3	9LA10C41	3
4160	3-phase, grd Y		3	18F58	1	9LA1G289	3	9LA10C21	3
4800	3-phase, nongrd		1	18F29	3	9LA1G291	3	9LA10C41	3
4800	3-phase, grd Y		1	18F29	3	9LA1G290	3	9LA10C41	3
6900	3-phase, nongrd		1	18F30	3	9LA1G292 or △9LA1G295	3	9LA10C51	3
6900	3-phase, grd Y		1	18F30	3	9LA1G291	3	9LA10C41	3
11500	3-phase, nongrd		1	18F35	#3, ‡6	9LA1G293	3	9LA10C61	3
11500	3-phase, grd Y		1	18F35	3	9LA1G292	3	9LA10C51	3
13800	3-phase, nongrd		1	18F59	#3, ‡6	9LA1G294	3	9LA10C71	3
13800	3-phase, grd Y		1	18F59	3	9LA1G293	3	9LA10C61	3

¶ The same capacitors are applicable to either grounded- or ungrounded-neutral circuits. However, the arresters for machines 2400 volts and above have lower valve ratings for grounded-neutral circuits than for ungrounded-neutral circuits. The listing of arresters for grounded-neutral machines is premised on the circuit neutral's being solidly and directly grounded. If the machine neutral or circuit neutral is grounded through resistance or reactance, ask your Distributor for assistance in making selection of arresters.

* For indoor service only.

† These arresters are Thyrite meter protectors.

Where machines have no direct connection to exposed overhead lines, and where connection to transmission lines is not through Y-Y or auto-transformers, use only one capacitor unit (0.25 mu f), line-to-ground.

‡ Where machines are directly connected to exposed-overhead lines, or are connected through Y-Y or autotransformers to transmission lines, use two capacitor units in parallel per phase to obtain a capacitance phase-to-ground of 0.5 mu f. This method will limit reflections within the winding of delta-connected machines or at the neutral point of Y-connected machines which have their neutrals isolated or grounded through a resistance that is higher than the surge impedance of the machine winding. In general, if the neutral of a machine is grounded through a resistance of less than 50 ohms, positive reflections at the machine neutral will not occur. If a machine neutral is grounded through a reactance of less than 5 ohms (60-cycle basis), positive reflections at the machine neutral will be negligible when 0.25 mu f capacitance phase-to-ground at the machines is used. Hence, when the machine neutral is grounded through a resistance of less than 50 ohms or through a reactance of less than 5 ohms (60-cycle basis), only one capacitor unit (0.25 mu f phase-to-ground) will be required. Where two or more machines are operated in parallel, with the neutral of only one machine grounded, the capacitor applied on the machine bus for protection of all machines, or applied at the terminals of machines having neutrals ungrounded, should be 0.5 mu f capacitance phase-to-ground (2 capacitor units in parallel per phase). This method limits impulse-voltage reflections at the neutrals of those machines that have ungrounded neutrals.

△ This arrester, Model No. 9LA1G295, rated 1.5 kv, provides somewhat better protection than the Model 9LA1G292 unit rated 9 kv, and can be used wherever there is little, if any, risk of the system line-to-ground voltage exceeding the arrester's maximum line-to-ground rating of 7.5 kv, rms, under any condition of operation.

§ The pellet arresters listed for machines 2400 volts and above, can also be used in place of station-type Thyrite arresters for application at the terminals of rotating machines below 1000 kva. This application is recommended if economy of protection necessitates lower cost though less efficient protection.

NOTE: For altitudes above 6000 ft, ask your Distributor for engineering recommendations.

G-E EQUIPMENT FOR THE LIGHTNING PROTECTION OF A-C ROTATING MACHINES

Fig. A
Cat. No. 18F30 capacitor unit

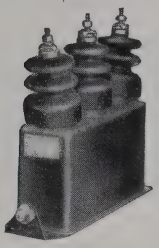


Fig. B
Cat. No. 18F28 capacitor unit

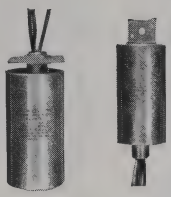


Fig. C
Cat. No. 21F830 and Cat. No. 21F831 capacitor units

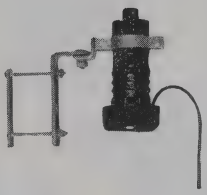


Fig. D
Line-type pellet lightning arrester

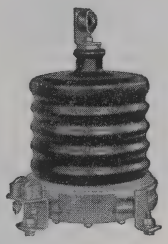


Fig. E
Model No. 9LA1G291 Thyrite station-type lightning arrester

Special Pyranol Protective Capacitors with Built-in Discharge Resistors

*Voltage Rating	Cat. No.		Price, Each		Poles per Unit	Mu F per Pole	Net Wt, Lb	Ship. Wt, Lb
	Indoor	Outdoor	Indoor	Outdoor				
0–650	21F830		$14.00		3	1.0	3	4
0–650		21F831		$14.50	3	1.0	4	5
	Indoor and Outdoor		Indoor and Outdoor					
2400	18F26		$ 75		1	0.5	24	35
2400	18F27		85		2	0.5	24	35
2400	18F28		95		3	0.5	30	40
4160	18F107		125		1	0.5	24	35
4160	18F58		170		3	0.5	65	80
4800	18F29		120		1	0.5	35	45
6900	18F30		135		1	0.5	50	65
11500	18F35		200		1	0.25	65	80
13800	18F451		250		1	0.25	80	100

* Capacitor rating should be selected according to the normal phase-to-phase voltage rating of rotating machine, regardless of whether circuit is grounded- or ungrounded-neutral. Capacitor can be used where machine phase-to-phase voltage does not exceed 10 per cent above listed capacitor rating. These protective capacitors are suitable for 25-, 40-, 50-, or 60-cycle systems.

Station-type Thyrite Arresters

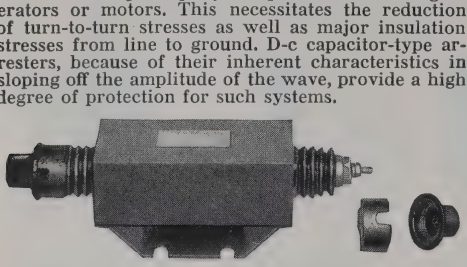
Arrester Maximum Voltage Rating Line-to-ground, Rms	Model No.		Price, Each		Poles per Unit	Net Wt, Lb	Ship. Wt, Lb
	Indoor	Outdoor	Indoor	Outdoor			
650	9LA15A11		$16.00		1	3	4
650		9LA15A21		$18.00	1	3½	4½
650	9LA15A12		22.00		2	3½	4½
650		9LA15A22		24.00	2	4	5
650	9LA15A13		25.00		3	4	5
650		9LA15A23		27.00	3	4½	5½
	Indoor and Outdoor		Indoor and Outdoor				
3000	9LA1G289		$120		1	55	65
4500	9LA1G290		146		1	58	67
6000	9LA1G291		146		1	60	70
7500	9LA1G295		180		1	65	80
9000	9LA1G292		180		1	70	85
12000	9LA1G293		211		1	75	90
15000	9LA1G294		297		1	90	105

For complete description, ask for Bulletin GEA-1743.

G-E D-C CAPACITOR-TYPE ARRESTERS

For D-c Railway Circuits

The protection of d-c electric-transportation systems involves principally the protection of d-c generators or motors. This necessitates the reduction of turn-to-turn stresses as well as major insulation stresses from line to ground. D-c capacitor-type arresters, because of their inherent characteristics in sloping off the amplitude of the wave, provide a high degree of protection for such systems.

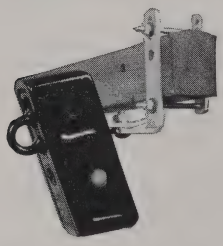


0-750-volt d-c capacitor-type arrester with molded-insulation cover removed from one terminal

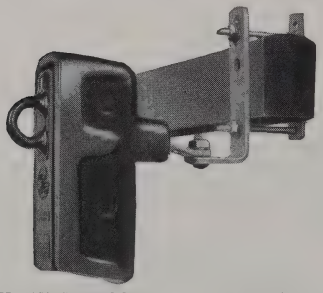
Cat. No.	Price, Each	Circuit Voltage Rating, Rms	Maximum Permissible Line-to-ground Voltage, Rms	Ship. Wt, Lb
18F303	**$38.00**	0–750	750	13
25F35	**82.00**	751–2000	2000	30
*18F34	**207.00**	2001–3900	3900	62

* Includes mounting bracket.

G-E ENCLOSED INDICATING AND DROPOUT FUSE CUTOUTS



Cat. No. 9F6C11, 5.2 kilovolts, 50 amperes, with EEI-NEMA Standard mounting bracket



Cat. No. 9F6C21, 7.8 kilovolts maximum, 50 amperes, with crossarm strap

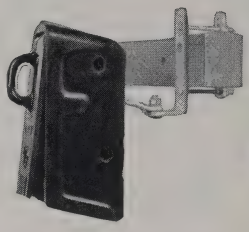
Cutout provides for positive indication of outages in either of two ways, depending on preference:

As an indicating cutout. When a fuse link melts, door opens at bottom sufficiently to give visual indication that circuit is open.

As a dropout cutout. Door opens to horizontal position. This not only gives indication that circuit is open, but also removes fuse holder from circuit. In this position, door and fuse holder are isolated, and open end of fuse holder is protected from even a driving rain.

Change from indicating to dropout operation is easily made. All current-transfer contacts are silver-plated.

Exclusive features: complete interchangeability of three doors—indicating and dropout door with single fuse holder, automatic reclosing door with two fuse holders, and disconnecting-blade door; same doors can be used with 5.2-kv or 7.8-kv cutouts in same ampere rating.



Cutout in indicating position

Cutout in dropout position

Cutout Complete with Fuse Holder

Cat. No.*	Price, Each	Voltage Rating	Current† Rating, Amperes	Mounting Bracket	Ship. Wt, Lb
9F6C11	**$11.30**	5.2 Kv Max.	50	EEI-NEMA Std....	11
9F6C21	**14.25**	7.8 Kv Max.	50	EEI-NEMA Std....	12
9F6C31	**25.00**	5.2 Kv Max.	100	EEI-NEMA Std....	26
9F6C41	**30.00**	7.8 Kv Max.	100	EEI-NEMA Std....	33

*These cutouts include the new EEI-NEMA Standard mounting bracket for separate mounting to crossarm, to wall, direct-to-pole, and for combination mounting with lightning arresters on crossarm for direct-to-pole.

†Interrupting capacity at 60 cycles: 50-ampere cutouts, 1200 rms amperes; 100-ampere cutouts, 3000 rms amperes.

With Disconnecting-blade Door

Indicating and dropout cutouts can easily be converted into disconnecting switches by substituting disconnecting-blade door, complete with flexible-copper connector, for the door and fuse holder. These disconnecting doors are not designed to open circuit while carrying load current.

A disconnecting door installed in 50-ampere cutout permits cutout to be used as a 100-ampere disconnecting switch. One installed in 100-ampere cutout can be used as 200-ampere disconnecting switch.

Cat. No. 3995930G1 100-ampere disconnecting-blade door for 50-ampere cutouts

G-E ENCLOSED INDICATING AND DROPOUT CUTOUTS—Continued

Cutout with Disconnecting Blade Instead of Fuse Holder

Cat. No.*	Price, Each	Voltage Rating	Current Rating, Amperes	Mounting Bracket	Ship. Wt, Lb
9F6CB11	**$10.75**	5.2 Kv Max.	100	EEI-NEMA Std.... X-arm strap.....	11
9F6CB21	**13.70**	7.8 Kv Max.	100	EEI-NEMA Std.... X-arm strap.....	12
9F6CB31	**23.75**	5.2 Kv Max.	200	EEI-NEMA Std.... X-arm strap.....	26
9F6CB41	**28.75**	7.8 Kv Max.	200	EEI-NEMA Std.... X-arm strap.....	33

*These cutouts include the new EEI-NEMA Standard mounting bracket for separate mounting to crossarm, to wall, direct-to-pole, and for combination mounting with lightning arresters on crossarm for direct-to-pole.

For complete description, ask for Bulletin GEA-3448.

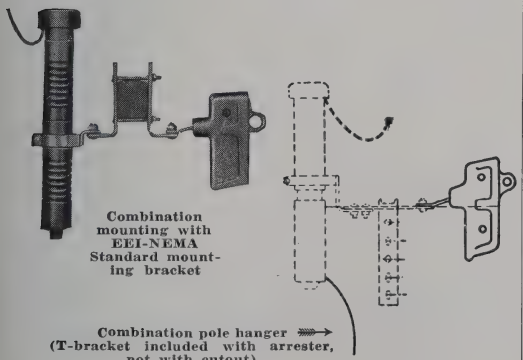
Parts for Enclosed Indicating and Dropout Fuse Cutouts

Cat. No.	Price, Each	Description	Cutout Voltage Rating	Cutout Current Rating, Amp
2928558G4	**$6.00**	Door Complete with Toggle Mechanism and Fuse Holder	5.2 Kv Max. or 7.8 Kv Max.	50
3906372G2	**10.00**			
3995930G1	**5.45**	Door Complete with Disconnecting Blade, Rated 100 Amperes	5.2 Kv Max. or 7.8 Kv Max.	50
3995924G1	**8.75**	Door Complete with Disconnecting Blade, Rated 200 Amperes	5.2 Kv Max. or 7.8 Kv Max.	100

Mounting Brackets

The EEI-NEMA Standard mounting bracket for 50- and 100-ampere fuse cutouts provides for cutout mounting in vertical position or at angle. In either position, cutout can be turned to any desired horizontal angle, and locked firmly in position.

In addition to standard mounting brackets, these fuse cutouts are available with crossarm strap and T-bracket mountings.



Combination mounting with EEI-NEMA Standard mounting bracket

Combination pole hanger (T-bracket included with arrester, not with cutout)

G-E RECLOSING FUSE CUTOUTS

5.2 kv max., 50 amperes

7.8 kv max., 50 amperes

Reclosing Fuse Cutouts with Clamp-type Crossarm Hangers

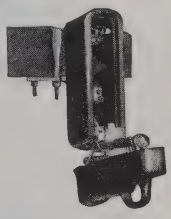
The G-E reclosing fuse cutout restores service within one second after a temporary fault, by a second fuse link which is connected in the circuit after the first fuse link blows. This interruption is so brief that motors and other devices will continue in service.

If the line is patrolled after a storm, and a cutout found that indicates the first fuse has blown, this fuse link can be easily renewed by the use of a jumper, without interrupting service.

When the first fuse link is blown, positive visual indication is given by a red indicator which projects below the door and is readily visible from the ground. In addition, the door of the 50-ampere cutout is pushed out at bottom.

When the second fuse link is blown, the reclosing door drops out to a horizontal position, indicating that the circuit is open. All current-transfer contacts are silver-plated.

Cutout in indicating position



Cutout in dropout position

The cutout is entirely sleetproof and will restore service after a temporary fault by connecting the second fuse link into the circuit under the most severe sleet conditions, with the door firmly frozen shut.

Cutout Complete with Two Fuse Holders and ‡EEI-NEMA Standard Mounting Bracket

Cat. No.	Price, Each	Voltage Rating	†Current Rating, Amperes	Ship. Wt, Lb
9F6CR11	**$30.00**	5.2 Kv Max.	50	13
9F6CR21	**33.25**	7.8 Kv Max.	50	14
9F6CR31	**60.00**	5.2 Kv Max.	100	32
9F6CR41	**65.00**	7.8 Kv Max.	100	36

† The interrupting capacity of 50-ampere cutouts is 1200 rms amperes at 60 cycles; 100-ampere cutouts, 3000 rms amperes at 60 cycles.

‡ These cutouts in 50-ampere ratings can be supplied on order with any of the special hangers listed for the enclosed indicating and dropout use cutouts.

G-E RECLOSING FUSE CUTOUTS—Continued

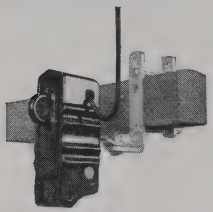
Complete Reclosing Door for Use with G-E Indicating and Dropout Fuse Cutout, 5.2 or 7.8 Kilovolts

The same housing is used as with the standard G-E enclosed indicating fuse cutouts. Therefore, the reclosing door can be installed on any 50- or 100-ampere indicating and dropout cutout now in service.

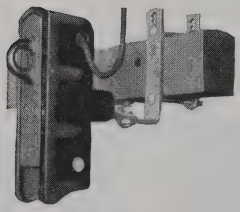
Cat. No. 73X710, for 50-ampere cutout, price, each **$25.00**
Cat. No. 73X854, for 100-ampere cutout, price, each **45.00**

For complete description, ask for Bulletin GEA-3448.

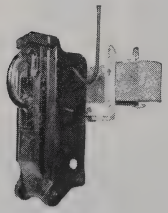
G-E PORCELAIN-ENCLOSED NONINDICATING FUSE CUTOUTS



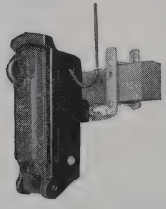
Cat. No. 9F19A11, 50-ampere, 5.2 kilovolts maximum



Cat. No. 9F19A21, 50-ampere, 7.8 kilovolts maximum



Cat. No. 9F19A31, 100-ampere, 5.2 kilovolts maximum



Cat. No. 9F19A41, 100-ampere, 7.8 kilovolts maximum

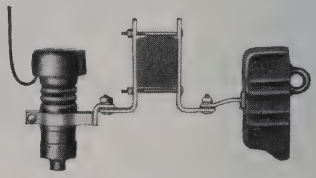
The G-E porcelain-enclosed fuse cutout provides a high degree of overcurrent protection under all conditions.

Housing is made of G-E wet-process porcelain. Barriers, which mesh with barriers on the Textolite door, prevent hot conducting gases from bridging the space between the contacts.

Full-floating contact clips and terminals are self-aligning. All current-carrying contacts are silver-plated.

The fuse-holder tube consists of a vulcanized-fiber tube over which is wound laminated Textolite having a linen-fabric base. In this way, a strong, dense, and homogeneous tube without molding seams is produced.

Mounting Brackets



The EEI-NEMA Standard mounting bracket for the 50- and 100-ampere fuse cutouts provides for mounting the cutout either in a vertical position or at an angle. In either position, the cutout can be turned to any desired horizontal angle.

In addition, the new standard mounting bracket permits combination back-to-back mounting of arresters and cutouts on a single crossarm as shown above.

Cutout Complete with Fuse Holder

Cat. No.*	Price, Each	Voltage Rating	Current† Rating, Amperes	Mounting Bracket	Ship. Wt, Lb
9F19A11	**$10.75**	5.2 Kv Max.	50	EEI-NEMA Std....	10
9F19A21	**13.60**	7.8 Kv Max.	50	EEI-NEMA Std....	13
9F19A31	**23.75**	5.2 Kv Max.	100	EEI-NEMA Std....	30
9F19A41	**28.50**	7.8 Kv Max.	100	EEI-NEMA Std....	31

Cutout with Disconnecting Blade Instead of Fuse Holder

9F19AB11	**$10.75**	5.2 Kv Max.	100	EEI-NEMA Std....	11
9F19AB21	**13.60**	7.8 Kv Max.	100	EEI-NEMA Std....	14
9F19AB31	**23.75**	5.2 Kv Max.	200	EEI-NEMA Std....	32
9F19AB41	**28.50**	7.8 Kv Max.	200	EEI-NEMA Std....	33

*These coutouts include the new EEI-NEMA Standard mounting bracket for separate mounting to crossarm, to wall, direct-to-pole, and for combination mounting with lightning arresters on crossarm for direct-to-pole.

†Interrupting capacity at 60 cycles: 50-ampere cutouts, 1200 rms amperes; 100-ampere cutouts, 3000 rms amperes.

G-E PORCELAIN-ENCLOSED NONINDICATING FUSE CUTOUTS—Cont.

Parts for Porcelain-enclosed Nonindicating Fuse Cutouts

Cat. No.	Price, Each	Description	Cutout Voltage Rating	Cutout Current Rating, Amp
*9F4A31	$2.85	Fuse Holder.....	5.2 Kv Max.	50
*9F4A21	2.85		7.8 Kv Max.	50
*9F4A11	4.75		5.2 Kv Max.	100
*9F4A11	4.75		7.8 Kv Max.	100
29X843	2.85	100-ampere Disconnecting Blade.....	5.2 Kv Max.	50
29X842	2.85		7.8 Kv Max.	50
29X841	4.75	200-ampere Disconnecting Blade.....	5.2 Kv Max.	100
29X841	4.75		7.8 Kv Max.	100

* Model No.

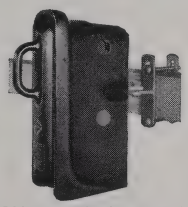
For complete description, ask for Bulletin GEA-2390.

G-E HEAVY-DUTY ENCLOSED FUSE CUTOUT

General Electric offers 5.2-kilovolt, 100- and 200-ampere, indicating fuse cutouts which have the same outstanding advantages of safety, reliability, and ease of fuse renewal as the G-E porcelain-enclosed indicating and dropout fuse cutouts.

These cutouts have an interrupting rating of 5000 rms amperes at 60 cycles. They are particularly applicable for use on banks of transformers that feed industrial plants, or for sectionalizing heavy feeders.

The 200-ampere fuse cutout can be converted to a 400-ampere disconnect cutout simply by replacing the fuseholder door with a disconnect door.



200-amp, 5.2-kv cutout mounted on crossarm

Voltage Rating	Current Rating, Amp, 100% Basis	Current Interrupting Rating, Rms Amperes at 60 Cycles	Cat. No.	Price, Each	Approx Wt, Lb Net	Approx Wt, Lb Ship.
Fuse Cutout Complete with Fuse Holder and Hanger						
5.2 Kv Max.	200	5000 5.2-kv† 8000 2.5-kv†	9F16B76	$55.00	35	45
	100		9F16B31			
	100		9F16B31	19.00	13	14½
	100		9F16B31			
Cutout Having Disconnect Blade Instead of Fuse Holder						
52 Kv Max.	400	.....	9F16BB76	$48.00	35	45
Parts for the Cutouts Listed Above						
Door, complete with fuseholder for 100-amp cutout.....			8324270G4	$8.50	2½	3½
Door, complete with fuseholder for 200-amp cutout.....			79X307	23.50	6½	7½
Door, complete with 400-amp disconnect blade.....			79X311	16.50		

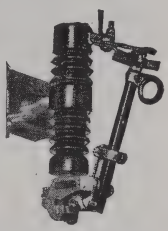
* With interchangeable doors.

† On 4160- or 4330-volt, 4-wire circuits or wherever voltage across a single cutout does not exceed 2.5 kv.

UNIVERSAL CABLE-TYPE FUSE LINKS FOR HEAVY-DUTY CUTOUTS

Ampere Rating, 100% Basis	Fuse Link Cat. No.	Price, Each	Over-all Length in Inches	Carton Quantity	Ship. Wt, Lb
125	9F1C106	$1.60	20	5	4½
150	9F1C88				
200	9F1C89				

G-E OPEN FUSE CUTOUTS



100-amp, 7.8-kv cutout mounted on crossarm

The G-E open-type dropout fuse cutout provides overcurrent protection throughout the full range of fault currents up to their rated interrupting capacity, on distribution circuits of 15,000 volts and below.

Their bird-proof construction, attained by cementing the mounting support and upper and lower contact-supporting studs into the porcelain insulator in such positions that the mounting support and hanger are confined to the opposite side from the live parts, makes possible a freedom from unnecessary outages heretofore unattained with any open-type cutout.

The fuse holder, which drops to completely open position for easy identification of blown fuse, is mounted on hinge located directly under the insulator, thereby directing the recoil force in line with the center line of the insulator.

Open Fuse Cutout, Complete with Fuse Holder

Rated Interrupting Capacity 2000 Rms Amp at 60 Cycles

Cat. No.	Price, Each	Voltage Rating	Current Rating, Amperes	Mounting Bracket	Ship. Wt, Lb
9F3G11	$17.00	5.2 Kv Max.	100	EEI-NEMA Std....	15
9F3G21	19.00	7.8 Kv Max.	100	EEI-NEMA Std....	17
9F3G31	23.60	15 Kv Max.	100	EEI-NEMA Std....	18

Rated Interrupting Capacity 5000 Rms Amp at 60 Cycles

9F3G61	$22.00	5.2 Kv Max.	100	EEI-NEMA Std....	15¾
9F3G71	24.00	7.8 Kv Max.	100	EEI-NEMA Std....	17¾

Fuse Holder, Complete, for Open-type Fuse Cutouts

Cutout Cat. No.	Fuse-holder Cat. No.	Fuse-holder Price Each	Ship. Wt, Lb
9F3G11 9F3G14 9F3G114	79X843	$8.00	2
9F3G21 9F3G24 9F3G214	79X843	8.00	2
9F3G31 9F3G34 9F3G314	79X844	9.00	2½
9F3G61 9F3G71	9532053G2	12.50	2¾

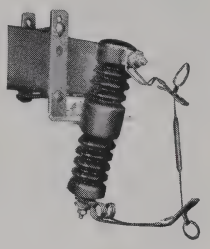
SWITCH HOOK

A malleable-iron switch hook, mounted on a 42-inch treated-maple pole, suitable for the operation of open-type or enclosed fuse cutouts.

Cat. No. 2928531G2
Price, Each $5.00
Shipping Weight, Lb..... 3

G-E FLIP-OPEN FUSE CUTOUTS

The G-E flip-open fuse cutout provides overcurrent protection by means of a fuse link, without the conventional hinged fuseholder tube. Expulsion action is obtained entirely by the fuse-link tube, which is a unitary part of the fuse link. The fuse link is supported in tension between spring contact arms, which pull the lower cable terminal out of the fuse-link tube when the fuse link melts.



Its simple construction provides an inexpensive cutout for rural-line service where the circuit conditions impose a less-severe interrupting duty on the cutout, and where the advantage of the hinged fuseholder type of conventional cutout may be dispensable.

Mechanical and electrical reliability is embodied in these cutouts. Their ability to meet the shocks and stresses of service has been demonstrated by flashover tests, both wet and dry, short-circuit tests, tension test of the metal-to-porcelain joints, and accelerated life tests.

Cat. No.	Price, Each	Voltage Rating	Current Rating, Amperes*	Mounting Bracket	Ship. Wt, Lb
9F17C21	$11.00	7.8 Kv Max.	50	EEI-NEMA Std....	10
				X-arm strap.....	9
9F17C218	9.00			Bushing.....	6½
				X-arm strap, wall or pole, comb. with LA.....	10
9F17C31	14.00	5.2 Kv Max.	50	EEI-NEMA Std....	12
				X-arm strap.....	11
				X-arm strap, wall or pole, or comb. with LA.....	12

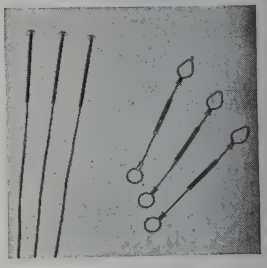
* These cutouts will carry 100 per cent of their rated current continuously, without the conducting parts exceeding a temperature rise of 30 C above an ambient of 40 C, as prescribed by NEMA Standards.

FUSE LINKS FOR FLIP-OPEN FUSE CUTOUTS

Conventional Type			
Capacity in Amp, 100% Rating *	Fuse Cat. No.	Price, Each	Ship. Wt, Lb per Carton of 25 Fuse Links
1	9F1F1	$0.67	2
2	9F1F2		
3	9F1F3		
5	9F1F4		
8	9F1F5		
10	9F1F6		
15	9F1F7		3¼
20	9F1F8		
25	9F1F9		
30	9F1F10		
40	9F1F11		
45	9F1F12		
50	9F1F13		

G-E HI-SURGE UNIVERSAL FUSE LINKS

Provide maximum overcurrent protection for distribution transformers (at 1, 2, or 3 amperes), yet provide the same freedom from surge blowing as that afforded by a conventional 5-ampere fuse. For use in expulsion or flip-open-type distribution fuse cutouts.



Hi-surge Fuse-link Rating, Amperes		Cat. No.	Price, Each	Ship. Wt, Lb per Carton of 25 Fuse Links
100% or Continuous Rating	Surge Rating			
Hi-surge, Universal, Cable-type Fuse Links				
1 2 3	Equivalent to conventional 5-amp fuse	9F1CH1 9F1CH2 9F1CH3	$0.50	2
2 3 5 8	Equivalent to conventional 10-amp fuse	9F1CH22 9F1CH23 9F1CH24 9F1CH25	$0.50	2
Hi-surge, Flip-open Fuse Links				
1 2 3	Equivalent to conventional 5-amp fuse	9F1FH1 9F1FH2 9F1FH3	$0.85	2
2 3 5 8	Equivalent to conventional 10-amp fuse	9F1FH22 9F1FH23 9F1FH24 9F1FH25	$0.85	2

A 100% "N"-RATED DOUBLE-DUTY FUSE

5-amp series (red auxiliary tube)

Low Current—1-, 2-, 3-ampere rating for overcurrent protection

High Current — 5-ampere characteristic for withstanding surges

10-amp series (black auxiliary tube)

Low Current—2-, 3-, 5- or 8-ampere rating for overcurrent protection

High Current—10-ampere characteristic for withstanding surges

For Transformer Installations, They Offer These Outstanding Advantages

1. *Improved Overcurrent Protection* where 5-ampere minimum fusing has previously been used.
   - A. With the same freedom from blowing by motor-starting, inrush lightning, or other surge currents
   - B. Without rechecking their co-ordination with line-sectionalizing devices
2. *Reduced Blowing by Surges* where 1-, 2-, or 3-ampere conventional fuses have previously been used.
   - A. With the same overcurrent protection
   - B. With no need for rechecking their co-ordination with line-sectionalizing devices, in the majority of applications

In These Applications of Hi-surge Fuse Links, the Only Factors to Consider are:

A. That overload currents do not exceed the fuse rating.

B. That they co-ordinate with service-entrance fuses.

G-E FAST-BLOWING UNIVERSAL CABLE-TYPE FUSE LINKS

For Use with All G-E Reclosing, Enclosed Indicating and Dropout, Enclosed Nonindicating, and Open-type Fuse Cutouts

These fuse links are rated on the 100 per cent basis, and are designed to carry their rated current without blowing, and to blow at not over 230 per cent rating within five minutes. All G-E fast-blowing universal cable-type fuse links may be operated safely and continuously at 100 per cent rating, with a maximum temperature rise of 30 C for conducting parts of the fuse holder above an ambient temperature of 40 C.

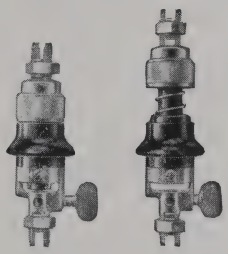
Packed 25 in a carton.

Cat. No.	Price, Each	Ampere Rating "N" (100%) Basis	Ship. Wt, Lb per Carton	Cat. No.	Price, Each	Ampere Rating "N" (100%) Basis	Ship. Wt, Lb per Carton
9F1C16	**$0.50**	1	2	9F1C26	**$0.50**	40	3¼
9F1C17	**.50**	2	2	9F1C27	**.50**	45	3¼
9F1C18	**.50**	3	2	9F1C28	**.50**	50	3¼
9F1C19	**.50**	5	2	9F1C29	**.60**	75	7
9F1C20	**.50**	8	2	9F1C30	**.60**	85	7
9F1C21	**.50**	10	2	9F1C31	**.60**	95	7
9F1C22	**.50**	15	2	9F1C32	**.60**	100	7
9F1C23	**.50**	20	2	9F1C106	**1.60**	125	4½
9F1C24	**.50**	25	2	9F1C88	**1.60**	150	4½
9F1C25	**.50**	30	3¼	9F1C89	**1.60**	200	4½

For complete description, ask for Bulletin GEA-1994.

G-E SECONDARY INDICATING FUSE CUTOUTS

The G-E secondary fuse cutout gives positive indication that the circuit is open whenever a fuse link is blown, by pushing the Textolite housing down from the upper terminal cap and displaying the red fuse-holder tube which is readily visible from the ground. This secondary cutout makes transformer-secondary banking, transformer-secondary protection, and the isolating of service-entrance faults economically possible.



Closed Indicating

The fuse link is protected from the weather; in this way, maintenance is minimized. The small size and light weight of the cutout enable it to be mounted in the space between secondary lines, attached directly to the line conductor, or mounted directly on the clamp terminals of a distribution transformer (using an adapter). Cutout can be easily and safely refused.

Cat. No.	Price, Each	Voltage Rating	*Current Rating, Amperes	Ship. Wt, Lb per Carton
9F7A1	**$4.00**	250	100	16

*Rated interrupting capacity, 3000 rms amperes at 60 cycles.

For complete description, ask for Bulletin GEA-2261.

G-E SECONDARY FUSE LINKS

For Use with Cat. No. 9F7A1 Secondary Fuse Cutouts

The time-current characteristics of these links are identical with those of the G-E fast-blowing cable-type fuse links designed for co-ordination with motor-starting currents, with primary or secondary fuse links of other ratings, and with relays.

Packed 25 in a carton.

Cat. No.	Price, Each	Ampere Rating "N" (100%) Basis	Ship. Wt, Lb per Carton	Cat. No.	Price, Each	Ampere Rating "N" (100%) Basis	Ship. Wt, Lb per Carton
9F1S1	**$0.35**	5	1½	9F1S8	**$0.37**	40	2
9F1S2	**.35**	8	1½	9F1S9	**.37**	45	2
9F1S3	**.35**	10	1½	9F1S10	**.37**	50	2
9F1S4	**.35**	15	1½	9F1S11	**.40**	75	3
9F1S5	**.35**	20	1½	9F1S12	**.40**	85	3
9F1S6	**.35**	25	1½	9F1S13	**.40**	95	3
9F1S7	**.37**	30	2	9F1S14	**.40**	100	3

G-E INDICATING SECONDARY FUSES

Outdoor Type

The G-E indicating secondary fuse is an outdoor cartridge-type, nonrenewable fuse designed to permit transformer-secondary banking, transformer-secondary protection, and the isolating of service-entrance faults at minimum initial expense.

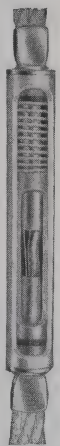
The fuse element is totally enclosed, protected from the weather, and cannot be twisted when swayed by the wind.

It can easily be installed with any type of overhead secondary construction by means of conventional solderless connectors.

For circuits 600 volts and below.

Packed 25 fuses in a carton, 200 amp and less.

Packed 5 fuses in a carton, 250 and 300 amp.

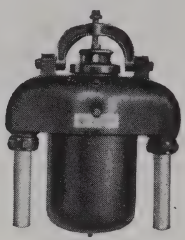


Cutaway view

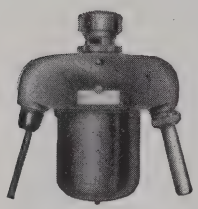
Cat. No.	Price, Each	Amperes	Ship. Wt, Lb per Carton
9F13A1	**$0.90**	5	3
9F13A2	**.90**	8	3
9F13A3	**.90**	10	3
9F13A4	**.90**	15	3
9F13A5	**.90**	20	3
9F13A6	**.90**	25	3
9F13A7	**.90**	30	3
9F13A8	**.90**	40	3
9F13A9	**.90**	45	3
9F13A10	**.90**	50	3
9F13A11	**1.00**	75	4½
9F13A12	**1.00**	85	4½
9F13A13	**1.00**	95	4½
9F13A14	**1.00**	100	4½
9F13A17	**2.00**	125	10½
9F13A15	**2.00**	150	10½
9F13A16	**2.00**	200	10½
9F13A18	**4.25**	250	6¼
9F13A19	**4.25**	300	6¼

G-E OIL FUSE CUTOUTS

Pole type
5000 volts, 100 to 200 amperes; 7500 volts, 100 amperes

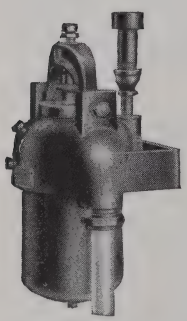


Subway type
5000 volts, 100 and 300 amperes; 7500 volts, 100 amperes



Pothead type, 100 and 200 amperes

Cat. No. 73X705 expansion chamber for subway-type cutouts



Cat. No. 294258 subway-type cutout with pellet vent

The G-E oil fuse cutout is completely metal-enclosed, with a fusible element under oil, by which the circuit is broken safely and rapidly. Standard oil fuse cutouts are available in three designs for pole, subway, or pothead service on circuits up to 7500 volts and 300 amperes.

The "U"-shaped universal fuse links consist of laminated-metal terminal strips, forming the vertical legs and supporting a horizontal section of fusible alloy having a low melting temperature. This horizontal section is housed in a specially formed expulsion tube of insulating material. Fuse carrier is locked in place before circuit is closed.

Flame from arc is confined within housing, and prevents ignition of explosive gases and external damage.

Fuse link is under oil—this prevents deterioration from oxidation or electrolysis. Gases are released, but oil is confined. Subway fuse cutouts have operated for years while submerged in water.

Fuse links are quickly and easily replaced. Oil level can be maintained without removing cutouts from service.

Heavy self-aligning contacts make possible repeated opening under load.

Cutouts may be fused closely to load, providing simultaneously protection against overload and heavy short circuits.

G-E oil fuse cutouts are particularly applicable for subway service, for replacement of potheads, and for installations where high current-interrupting ability is required and where high-speed operation is essential. Other locations in which they can be used to advantage are:

Where quiet operation is desirable.

Where the cutouts are exposed to smoke, corrosive fumes, salt air, explosive gases, or inflammable dust.

All indoor installations.

Where it is desired to have no exposed live parts, whether the cutout is in the open or the closed position.

They are ideal for indoor industrial applications. As no flame is expelled, and as all live parts are completely enclosed, the oil fuse cutout best meets the requirements of the National Electrical Code.

Pole Type

Model No.	Price, Each	*Volts	Rated Capacity, Amperes	Interrupting Cap., Amp, at 60 Cycles with Universal Fuse Links†	Shipping Weight, Lb	
					Cutout	Oil
9F2F2	**$48.00**	4330 5000	100 100	6000 5000	62	9
9F2F3	**63.00**	4330 5000	200 200	11000 10000	113	21
9F2F4	**134.00**	4330 5000	300 300	11000 10000	205	31
9F2F5	**134.00**	7500	100	3750	200	31

‡Subway Type

9F2F7	**$61.00**	4330 5000	100 100	6000 5000	70	9
9F2F8	**83.00**	4330 5000	200 200	11000 10000	127	21
§9F2F15	**180.00**	4330 5000	300 300	11000 10000	200	26
§9F2F9	**180.00**	7500	100	3750	200	26

Pothead Type

¶9F2F10 △9F2F11	**$56.00**	4330 5000	100 100	6000 5000	64	9
¶9F2F12 △9F2F13	**73.00**	4330 5000	200 200	11000 10000	116	21

* The 2500-volt cutouts are suitable for operation on 4000-volt Y-connected circuits with dead-grounded neutral. In all cases, two cutouts are required between lines.

† For interrupting ratings when used with superseded plain or reactive links, refer to Bulletin GEA-732.

‡ Subway-type cutouts require accessories for venting, either by means of an expansion chamber or pellet vent to obtain above listed rating. Prices above do not include venting accessories, which should be selected as follows:

Cat. No. 73X705 Expansion Chamber, for use where complete submersion is possible.....price, each **$10.50**

Cat. No. 294258 Pellet Vent, for use where cutouts are not subjected to flooding.....price, each **6.00**

§ The bushings on Model No. 9F2F9 and 9F2F15 cutouts are not the separable-sleeve type, but are designed for connection to the cables using standard splicing material.

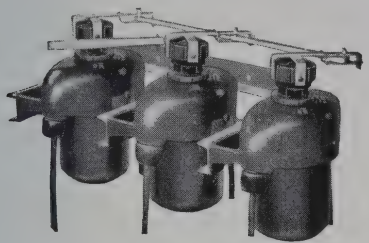
¶ With right-hand subway sleeve bushings.

△ With left-hand subway sleeve bushings.

G-E OIL FUSE CUTOUTS—Continued

Gang Operation of G-E Oil Fuse Cutouts

A simple and low-cost, gang-operated, three-phase assembly of standard G-E oil fuse cutouts can readily be made by the addition of a mounting rack and lever-operated mechanism for safely opening or closing the full-rated current on all three phases simultaneously.



Pole-type cutouts arranged for three-phase operation

For Pole- or Pothead-type Cutouts

Rack and Mechanism Only			For Cutouts		
Cat. No.	Price, Each	Ship. Wt, Lb	Model No.	Amperes	Volts
79X789	**$20.00**	50	9F2F2	100	5000
79X790	**21.00**	60	9F2F3	200	5000
79X809	**30.00**	75	9F2F4	300	5000
For Subway-type Cutouts					
79X5	**$31.00**	50	9F2F7	100	5000
79X6	**32.00**	60	9F2F8	200	5000
79X7	**47.00**	75	9F2F15	300	5000

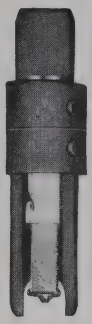
For complete description, ask for Bulletin GEA-732.

NEW G-E UNIVERSAL FUSE LINKS

For Oil Fuse Cutouts Having Notched Carrier Plugs

Capacity, Amp., 100% Rating	Model No.	Price, Each	Ship. Wt, Lb per Carton of 10 Fuse Links
5	9F18B1	**$0.85**	½
10	9F18B2		
15	9F18B3		
20	9F18B4		
25	9F18B5		
30	9F18B6		
40	9F18B7		
50	9F18B8		
60	9F18B9	**0.95**	1
75	9F18B10		
100	9F18B11		
125	9F18B12	**1.20**	1½
150	9F18B13		
200	9F18B14		
250	9F18B15	**1.45**	3
300	9F18B16		

These fuse links are packed 2 in a box with 5 boxes per carton.



Universal fuse link mounted in notched fuse-carrier plug

Universal fuse link

TIME-CURRENT CHARACTERISTICS

Universal fuse links, when used in G-E oil fuse cutouts of the proper rating, will carry continuously 100 per cent of the rated current of the fuse link. They will melt at approximately 150 per cent of their rating in 300 seconds (5 minutes).

APPLICATION

These universal fuse links are designed for use in all oil fuse cutouts, 100 to 300 amperes, with Model No. in the 9F2D, -E, and -F series. These cutouts all have notched fuse-carrier plugs, as illustrated.

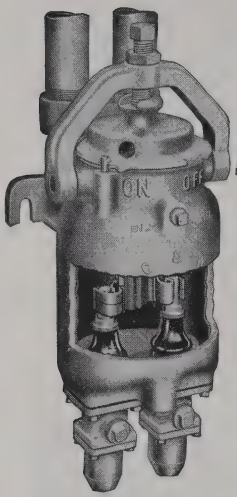
Universal fuse links can also be used in all superseded designs of G-E oil fuse cutouts, in the Cat. No. 9F2C series or earlier (except 50-ampere, 2500-volt rating), simply by cutting a notch in the lower end of the wooden fuse-carrier plug. A template is included in each carton of universal fuse links to facilitate correct notching.

DISCONNECTING BLADES

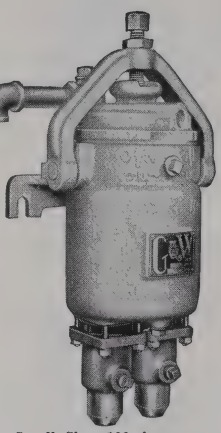
Copper disconnecting blades with notched ends formed up and insulated with Herkolite sleeve.

Cat. No.	Price, Each	For Cutouts of Present Design, or for Cutouts of Superseded Design Having Notched Fuse Carriers, Model No.
9218955G1	**$0.65**	9F2(D, E, or F)2, -7, -10, -11, -27, -38, 9F2D5, -D9, 9F2F5, -F9
9218955G2	**0.95**	9F2(D, E, or F)3, -8, -12, -13, -26, -39, -50
9218955G3	**1.50**	9F2D4, 9F2D15, -33, -35, 9F2F4, 9F2F15, -33, -35

G & W FUSE CUTOUTS
TYPE "FC" OIL FUSE CUTOUTS



Large Size Subway Style 200 Ampere, 5000-Volt Rating. With Manifold and Expansion Pipes which are closed at the top.



Small Size, 100 Amperes, 2500-Volt Rating. With Relief Valve. Quiet, Reliable and High Speed Interruption of Short Circuit and Overload Currents.

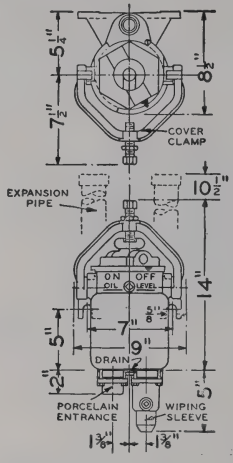


Fig. 1, 2500 Volts, 100 Amperes. No. FC31. Flashover—20 KV. in Air, 52 KV. in Oil

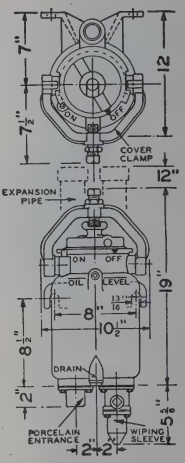


Fig. 2, 5000 Volts, 200 Amperes. No. FC42. Flashover—35 KV. in Air, 85 KV. in Oil.

Subway Style—Wiping Sleeve Entrances

Cat. No.	Max. Volts to Ground	Max. Carrying Cap. Amps.	For Dimen. See	Appr. Shpg. Wt. Lbs. Cutout	Oil	Amount Oil Requir'd Quarts
‡FC31S	2500	100	Fig. 1	70	6	2
†FC42S	5000	200	Fig. 2	120	20	8

Combination—Underground to Overhead Style

‡FC31SP	2500	100	Fig. 1	70	6	2
†FC42SP	5000	200	Fig. 2	120	20	8

Overhead Style—Porcelain Entrances

‡FC31P	2500	100	Fig. 1	70	6	2
†FC42P	5000	200	Fig. 2	120	20	8

‡Cast steel tank, interrupting capacity at 60 cycles, 15000 kva. †Cast steel tank, interrupting capacity at 60 cycles, 25000 kva. (Single phase based on cutouts with expansion chambers. Three phase capacities are twice the single phase.)

A completely enclosed protective device designed for operation under severe conditions of large generator capacity and low power factor.

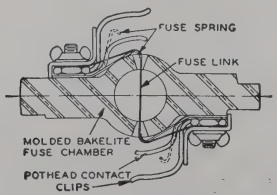
Applicable to subway installations and especially suitable for use in locations which are exposed to corrosive fumes, explosive gases, salt air and inflammable dust.

Unit detachable potheads. Oil tight cap nut style provides definite cable seal. Bottom location decreases over-all width and eliminates sharp cable bends within the cutout.

Interchangeable wiping sleeve entrance for lead covered cables or porcelain entrance for aerial cables, subway style potheads are filled with compound.

Interlocked cover carries insulated fuse chamber. Cover clamp can be moved to horizontal position only when cutout is in off position. Cover can be rotated to the on position only when the cover clamp is vertical. Fuse carrier can be inserted completely into the tank only in the off position.

Bakelite fuse carrier. Fuse carrier, attached to cover is removed from tank for fuse replacement. Fuse link extends through small oil cavity in the bakelite carrier. The link is fastened with wingnuts at each end to the movable contacts. High pressure movable contacts align themselves readily on the pothead hoodnuts when the cutout is switched to on position.



Horizontal section through fuse chamber, looking downward. Contact clips are below fuse link level.

Accessories

Furnished with necessary oil for tank and compound for potheads at the regular prices.

Specify whether cutouts are wanted with:

a. Manifold and expansion pipes.

b. Closed tank (⅔ interrupting capacity).

Fuse Links (priced extra) Specify fuse ampere rating wanted.

(Specify fuse ampere rating wanted.)

ACTION ON AN OVERLOAD OR SHORT CIRCUIT

A. Excess current melts fuse link in the middle.

B. Fuse ends are quickly forced out through the two orifices by pressure of gas bubble formed by the arc and by magnetic forces set up.

C. Arc is extinguished by lengthening of gap, by gas pressure reducing conductivity of arc path and by gas within chamber forcing cool and quenching oil through the orifices.

switchgear

G-E SWITCHGEAR

The General Electric Company produces a complete line of switchgear equipments and component devices consisting of hundreds of items. The most popular of these items are listed in this catalog with complete information. Following is a list of many other standard items and the publications describing their applications and characteristics. Upon receipt of a request, accompanied by a statement of your application requirements, a quotation and necessary descriptive matter on any of these items will be gladly supplied.

Apparatus	*Descriptive Publication*
Air Circuit Breakers	
Aircraft Service, Type AH-23	GET-2101
Generator-field-discharge Service	GEA-3281
In Explosion-proof cases	GEA-3447
Resistance-welding-machine Service	GEA-2997
Selection and Application	GET-1113
Selective Operation	GET-1485
Standard-duty, 15,000 and 25,000 Amp Interrupting Capacity, Type AK-1	GEA-4951
Standard-duty, 50,000, 75,000, and 100,000 Amp Interrupting Capacity, Type AL-2	GEA-3642
Disconnecting Switches, Group-operated, Outdoor	
Rotating Insulator, Horizontal Break, Type RK	GEA-2195
Rotating Insulator, Vertical Break, Type RF	GEA-4980
Tilting Insulator, Vertical Break, Type TA	GEA-460
Disconnecting Switches, Hook-operated, Outdoor	
Light-duty, for Rural Lines, Type FD	GEA-4911
Standard-duty, Type FA	GEA-4911
Equipments	
Arc Furnaces, Electric Equipment for	GEA-4246
Bus Runs, Isolated-phase	GEA-5460
Cubicles, Station-type	GEA-3658
Mercury-arc-rectifier Equipment, Switchgear for	GEA-3898
Mercury-arc Rectifiers, Mining-type	GEA-4047
Metal-clad Switchgear, Heavy-duty, with Magne-blast Air Circuit Breakers	GEA-3083
Metal-clad Switchgear, Light-duty, with Magne-blast Air Circuit Breakers	GEA-4059
Metal-enclosed Switchgear with Drawout Air Circuit Breakers (AK-1 breakers)	GEA-4966
Metal-enclosed Switchgear with Drawout Air Circuit Breakers (AL-2 breakers)	GEA-2596
Package Substations	GEA-4500
Package Substations, Rural	GEA-5276
Sectionalizing Units, Inside of Mine	GEA-5436
Supervisory Equipment, Code Selector	GET-1772
Switchboards, Duplex	GEA-4127
Telemetering Systems	GEA-5233
Network Protectors	
Heavy-duty, Automatic, Types MG-8 and MG-9	GEA-2017
Light-duty, Automatic, Type MG-12	GEA-3551
Power Circuit Breakers, Indoor Oil-blast	
Light-duty, 2.5 Kv, 15 Mva, Type FK-33	GEA-1021
Medium-duty, 4.16 Kv, 25 Mva, Type FK-142	GEA-2050
Medium-duty, 4.16 and 7.2 Kv, 50 Mva, Type FK-143	GEA-2050
Motor-starting combinations, Types FK-33 and FK-142	GEA-4744
Power Circuit Breakers, Outdoor Oil-blast	
Floor Mounted, 115 to 230 Kv, Type FK-439	GEA-4407
Framework Mounted, 15 to 69 Kv, Type FK-339	GEA-1642
Framework Mounted, 69 Kv, Type FK-439	GEA-4985
Framework Mounted, 7.2 Kv, Type FKO-227	GEA-5435
Framework Mounted, 14.4 Kv, Type FLO	GEA-5435

Apparatus	*Descriptive Publication*
Power Fuses and Supports	
Current-limiting Fuse Supports, Types EK and EKO	GEA-5501
Current-limiting Fuse Units, Types EJ-1 and EJO-1	GEA-5501
Current-limiting Fuse Units, Type EJ-6	GET-1819
Expulsion Fuse Disconnecting Switches, Type EF-1	GEA-5502
Expulsion Fuse Units, Type EG-1	GEA-5502
Selection and Application	GET-1843
Relays	
A-c Wire-pilot, Type CPD	GEA-3004
Auxiliary, Types HEA, HFA, HGA, and HMA	GEA-5457
Current-balance, Machines and Lines, Type IJC51B	GEA-4695
Current-balance, Regulating Transformers, Type IJC52A	GEA-4694
Differential, Percentage, Power Transformers, Type IJD53A	GEA-3236
Differential, Percentage, High-speed, Power Transformers, Type HDD	GEA-5581
Differential, Percentage, Machines, Type IJD52A	GEA-3235
Differential, Product-restraint, Machines, Type CFD	GEA-4716
Differential-voltage, Switchgear, Type PVD	GEA-5449
Directional-distance, Reactance, Lines, Type GCX	GEA-2170
Directional-ground, Types ICC and ICP	GEA-2009
Directional-overcurrent, Types IBC, IBCC, IBCP, and IBCV	GEA-3206
Directional, D-C, Types RAV, RBV, RBP, RBC, RCP, and RCV	GEA-3246
Drawout Relays, Switchgear (construction)	GEA-5578
Frequency, Type IJF	GEA-2013
Load Boxes, for Testing	GEH-116
Loss-of-excitation, Type CEH11A	GER-300
Overcurrent, Instantaneous, Type PJC	GEA-4880
Overcurrent, Instantaneous, Type PJC31C	GEA-5330
Overcurrent, Inverse-and Very-inverse-time, Type IAC	GEA-3553
Overcurrent, Extremely-inverse-time, Type IAC77	GEA-5443
Overpower, Type ICW	GEA-3417
Phase-comparison Relaying Using Carrier-current channels	GEA-4492
Phase-sequence and Undervoltage, Type ICR	GEA-2524
Plunger-operated, Types PAA, PAC, PAV, PBA, PBC, and PCV	GEA-1811
Power-directional, Type GGP	GEA-5447
Protective Relaying, The Art of	GET-1768
Reclosing, Automatic, Multi-reclosure, Type ACR	GEA-5593
Reclosing, Automatic, Single-reclosure, Type HGA18	GEA-3340
Synchronism-check, Type IJS	GEA-3537
Synchronizing, Type GES	GEA-3026
Temperature, Bearings, Type TBB	GEA-2209
Temperature, Windings, Type CFT	GEA-3734
Test Plug, for Drawout Relays and Meters, Type XLA	GEA-4984
Thermal, Type TMC	GEA-5525
Timing, Types MC-13 and MC-16	GEA-2436
Undervoltage and Overvoltage, Time, Type IAV	GEA-3552
Undervoltage and Overvoltage, Instantaneous, Type PJV	GEA-4880
Switches, Miscellaneous	
Control and Transfer, Type SB-1	GEA-4746
Generator Field Discharge, Type LF-23	GEA-831
Master Control, Type SB-9	GEA-4114
Test Blocks and Plugs	GEA-2945

G-E STANDARD METAL-ENCLOSED A-C SWITCHBOARDS

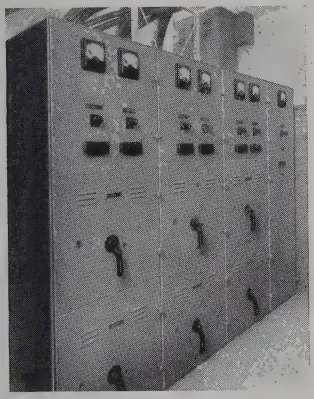
WITH DRAWOUT AIR CIRCUIT BREAKERS

Interrupting Ratings—15,000 to 100,000 Amperes

600 Volts Maximum—3-phase, 3-wire, 60 Cycles

APPLICATION

These equipments are available for indoor or outdoor service, for 600 volts maximum, in interrupting ratings of 15,000 to 100,000 amperes, for a-c 2- or 3-phase or d-c 2- or 3- wire circuits.

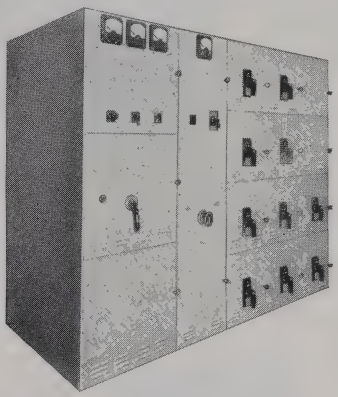


Installation view of a metal-enclosed, low-voltage, drawout air-circuit-breaker switchboard

The equipments incorporate the latest improved features to provide inexpensively for the safe and reliable control of 600-volt (or less) a-c generators, power transformers, incoming and outgoing feeder lines, synchronous and induction motors and motor branch feeders, which may be used for general power and lighting service in power plants, municipal and industrial installations, and such 'commercial" structures as office buildings, banks, hotels, theaters, department stores, hospitals, and educational and public buildings, where the interrupting rating requirement for the breaker does not exceed 100,000 amperes.

The reliability in service of low-voltage air circuit breakers, combined with their ease of operation and economy in initial installation cost and maintenance, has resulted in their general acceptance and adoption, as the standard practice for the control of a-c circuits and apparatus rated 600 volts or less.

As a consequence, the application of low-voltage air circuit breakers to the universally accepted and generally preferred metal-enclosed type of switchgear equipment has made similar progress, resulting in the production of the standard metal-enclosed low-voltage a-c switchgear equipments described in this section.



Drawout air-circuit-breaker equipment for indoor installation

In the general design of this class of equipment, the anticipated requirements for the comprehensive field of their application have been carefully and fully studied, and to provide properly for such application, all the advantages and outstanding constructive features have been fully incorporated in these standard equipments.

The equipments are of the highest quality manufactured, and may be relied upon to give efficient and satisfactory service for many years, with minimum maintenance attention and expense.

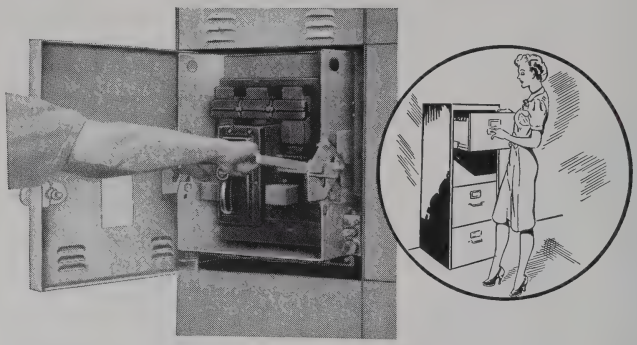
FEATURES	ADVANTAGES
Completely metal enclosed	No hazard to personnel; fire hazard minimized; long life.
Easily removed breaker, drawout relays and meters	Easy to maintain; short outage time.
Sequence interlocking	Safety to operators; continuity of service.
Co-ordinated switchgear components	Balanced engineering and design. Interchangeability of breakers reduces outage time for maintenance.
Complete primary and secondary control assembly; factory-built	Lower over-all installation cost and purchasing expense; a finished, tested job.
Standard unit construction	Low initial cost; flexibility in application; easy future expansion; simplifies station planning; high salvage value. Saves system investment.

G-E STANDARD METAL-ENCLOSED A-C SWITCHBOARDS

Interrupting Ratings—15,000 to 100,000 Amperes

600 Volts Maximum—3-phase, 3-wire, 60 Cycles

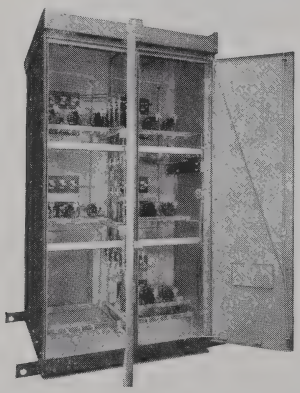
THE BREAKER CARRIAGE ROLLS IN AND OUT AS EASILY AS THE DRAWER OF A FILING CABINET



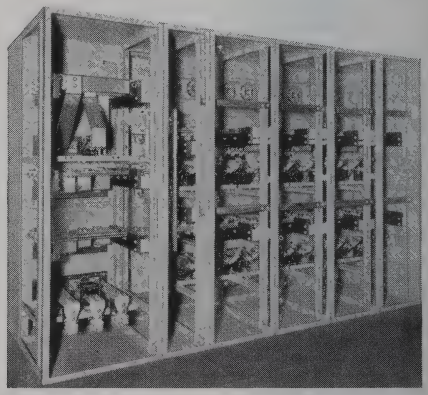
Simply open the door and draw out the breaker, part way, for inspection and test, or all the way for complete removal. Large breakers (50,000-amp interrupting rating and up) are equipped with a rack and a mechanism to facilitate this operation; smaller breakers are simply pulled out.

When withdrawn, the breaker is disconnected from live parts. Inspection, therefore, can be made safely.

THE BUS AND THE CURRENT TRANSFORMERS

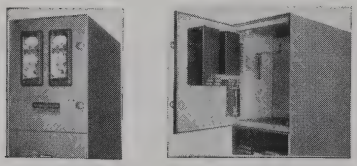


Opening the hinged rear doors on outdoor units gives complete access to the interior

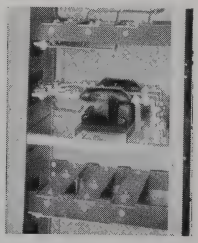


Unbolting and removing the back plates on indoor units gives complete access to the bus, current transformers, and feeder connections for each breaker

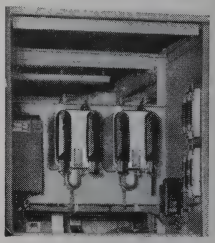
Instruments, Meters, Relays



Buses and Current Transformers



Potential Transformers

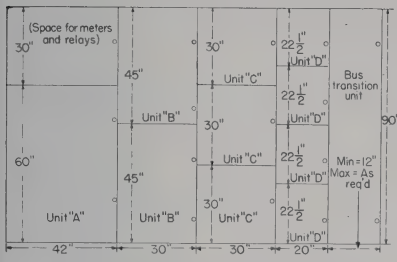


The control, protective and metering equipment, the wiring, current transformers and potential transformers are all fully accessible for routine inspections. Drawout relays and meters further simplify these inspections

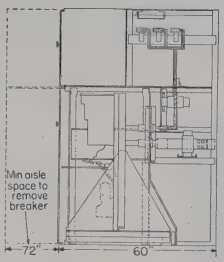
G-E STANDARD METAL-ENCLOSED A-C SWITCHBOARDS

FEEDER-SECTION UNITS

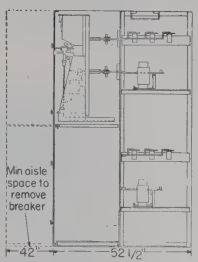
For Incoming Line, Power Tansformer, Feeder, and Motor-branch Circuit Application



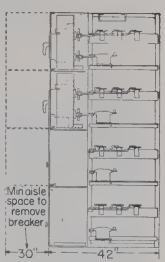
Front view of standard section units



Side view of unit "A"



Side view of units "B" (Units "C" same as above except three sections high)



Side view of units "D"

*FEEDER-SECTION UNITS

Ratings of Circuit Breaker in Amperes		Type of Breaker	Method of Operation	Unit Type	Maximum Number of Vertical Sections
Interrupting	Continuous				
75,000 and 100,000	2000 to 4000	AL-2-75 and AL-2-100	Electric	A	1
50,000	200 to 1600	AL-2-50	Electric	B	2
			Manual	C	3
25,000	35 to 600	AK-1-25	Manual or Electric	D	4
15,000	15 to 225	AK-1-15	Manual or Electric	D	4
Bus Transition Unit					1

* Where the complete switchboard is comprised of a number of different unit types, the over-all depth of the units is made identical, in order to obtain uniformity in construction and bus runs.

†GENERAL SPECIFICATIONS OF FEEDER-SECTION UNITS

WITH MANUALLY OPERATED BREAKER

1—Metal-enclosed unit, complete with stationary and removable elements, including primary disconnecting devices, mechanical interlocks, and—

1—Louvered, hinged-front door.

1—Air circuit breaker, three-pole, manually operated, trip-free, complete with overcurrent trips, interpole barriers, arc quenchers, operating handle, push-button mechanical trip, position indicator, all mounted on a removable (drawout) carriage.

Bare 3-phase bus, with supports.

Necessary bare copper interconnections.

Cable terminal connectors.

Ground bus.

WITH ELECTRICALLY OPERATED BREAKER

1—Metal-enclosed unit, complete with stationary and removable elements, including primary and secondary disconnecting devices, mechanical interlocks, and—

1—Louvered, hinged-front door.

1—Air circuit breaker, three-pole, trip-free, complete with over-current trips, interpole barriers, arc quenchers, electric closing mechanism, closing relay, shunt trip, position indicator, necessary auxiliary switches, all mounted on a removable (drawout) carriage.

1—Control switch, with indicating lamps.

Bare 3-phase bus, with supports.

Necessary bare copper interconnections.

Cable terminal connectors.

Ground bus.

†GENERAL SPECIFICATIONS OF BUS-TRANSITION UNITS

1—Metal-enclosed unit, complete with hinged-front instrument panel, with latches, and—

Bare 3-phase bus with supports.

Necessary bare transition copper connections.

Mounting and small wiring, including terminal boards, for secondary control equipment, where added.

Space, and mounting, for current and potential transformers.

† In addition to the items specified for each complete switchboard will be furnished a maintenance closing device for electrically operated breakers, and a control power transformer, as required, for the operation of electric operating mechanisms where the system voltage exceeds 220 volts a-c.

G-E AIR CIRCUIT BREAKERS

TYPE AK-1

AK-1-15: 15-225 AMP CONTINUOUS—15,000 AMP INTERRUPTING RATING
AK-1-25: 35-600 AMP CONTINUOUS—25,000 AMP INTERRUPTING RATING
600 VOLTS A-C OR 250 VOLTS D-C

APPLICATION

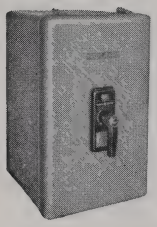


Fig. 1. Enclosed for wall mounting

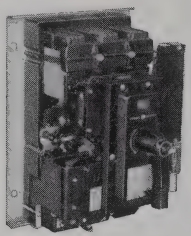


Fig. 2. Dead-front switchboard mounting (225-ampere electrically operated)

Type AK-1 air circuit breakers are recommended for use in general industrial and switchgear applications. They are suitable for severe service and where numerous opening and closing operations are required for general power and lighting circuits.

FEATURES

Small size—30 per cent smaller than superseded breaker.

Short-time (one-second) rating equal to interrupting rating.

Improved multislot contact design.

Individual unit-pole construction simplifies maintenance.

Pole units are mounted on metal plate, providing maximum fire resistance between front and back of breaker.

A variety of enclosures.

Complete line of accessories.

Pricing Information

Breaker Type	Continuous Rating Amperes*	2 Poles			3 Poles			4 Poles		
		Net Price		Ship. Wt Lb	Net Price		Ship. Wt Lb	Net Price		Ship. Wt Lb
		Manual	Electrical		Manual	Electrical		Manual	Electrical	
Enclosed Mounting (Fig. 1)										
AK-1-15	15-225	**$140**	**$249**	145	**$169**	**$278**	190	**$242**	**$351**	215
AK-1-25	35-600	**358**	**503**	250	**460**	**605**	300	**575**	**721**	330
Dead-front Switchboard Mounting (Fig. 2)										
AK-1-15	15-225	**$133**	**$242**	85	**$164**	**$273**	110	**$237**	**$345**	135
AK-1-25	35-600	**339**	**484**	160	**442**	**587**	185	**557**	**702**	225
In Weatherproof Enclosure										
AK-1-15	15-225	**$254**	**$363**	320	**$285**	**$394**	350	.....	.....	.....
AK-1-25	35-600	**460**	**605**	390	**563**	**708**	425	.....	.....	.....
In Dust-tight, Water-tight Enclosure										
AK-1-25	35-600	**$702**	**$847**	400	**$805**	**$950**	425	.....	.....	.....
In Explosion-proof Enclosure										
AK-1-25	35-600	**$975**	**$1120**	1050	**$1077**	**$1222**	1060	.....	.....	.....

* Standard Ratings: AK-1-15; 15, 20, 25, 35, 50, 70, 90, 100, 125, 150, 175, 200 and 225 amperes.
AK-1-25; 35, 50, 70, 90, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 500 and 600 amperes.

PRICES INCLUDE

MANUALLY OPERATED

Trip-free breaker, mounted on a metal base, with:
‡Dual-magnetic time-overcurrent trip unit per pole.
Arc-quenchers.
Push-button mechanical trip.
Position indicator.
Interlocked cover (enclosed breaker).
Provision for up to three padlocks (for locking breaker in the trip-free position).
Bolted-type terminal connectors (enclosed breaker).
Revolving-pistol-grip operating handle.
Selected enclosure (except breakers for dead-front switchboard mounting).

ELECTRICALLY OPERATED

Same as manually operated breaker, plus:
Solenoid closing mechanism.
Combined closing relay and anti-pump cutoff device with seal-in circuit (suitable for closing breaker by means of a remote maintained or momentary contact).
Shunt trip device.
Four-contact auxiliary switch.
Push-button closing switch.

‡ Normally, one overcurrent trip unit will be omitted if reverse-current device (see "Accessories") is furnished, since both units mount in the same location. In special cases, the reverse-current device can be mounted on a breaker housing three overcurrent units, but the size of breaker base or enclosing case will be increased.

G-E AIR CIRCUIT BREAKERS

TYPE AK-1

AK-1-15: 15-225 AMP CONTINUOUS—15,000 AMP INTERRUPTING RATING
AK-1-25: 35-600 AMP CONTINUOUS—25,000 AMP INTERRUPTING RATING
600 VOLTS A-C OR 250 VOLTS D-C

ACCESSORIES

*ADDITION	AK-1-15 Breaker		AK-1-25 Breaker	
	Manually Operated	Electrically Operated	Manually Operated	Electrically Operated
Auxiliary Switch Contacts (first two)	$13	‡	$13	‡
Additional Contacts, up to a total of ten, each	5	$5	5	$5
Undervoltage Device				
Instantaneous	43	43	43	43
Time-delay	55	55	55	45
Shunt Trip Device (includes 2-contact auxiliary switch)	43	‡	43	‡
Overcurrent Bell Alarm Device, Hand-reset	48	48	48	48
†Reverse-current Trip Device (d-c only)	91	91	91	91
Flat Steel Front Plate (dead-front switchboard mounting only)	2	2	5	5
Selective Tripping Attachment	¶	¶	¶	¶

* Listed prices apply only when accessory is installed at factory.
† If furnished, size of base or enclosure may be increased. See note (*) above.
‡ Included with breaker.
¶ Refer to your distributor.

TRIPPING CHARACTERISTICS

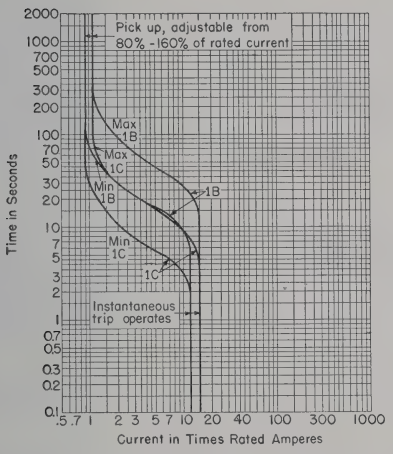


Fig. 3. Time-current characteristics of the AK-1-15 and AK-1-25 air circuit breakers, shown with pickup at 100% of rated current

The overcurrent trip unit of the AK-1 breaker is of the dual-magnetic type. It consists essentially of an electromagnet which is excited by the current in a series coil, and a pivoted laminated-iron armature which is normally restrained by a spring whose tension can be increased or decreased by means of a calibration knob which, when set, indicates the tripping current values. The calibration range is from 80 to 160 per cent of the breaker rating.

Movement of the armature is further restrained by a piston in a sealed, fluid-filled cylinder. The armature is linked to the piston which is accurately machined and provided with a calibrated orifice for controlling the flow of the fluid. The piston fits into an accurately machined cylinder which is completely sealed to keep out all dirt. The movement of the piston is restrained by the flow of the silicone fluid through the orifice. Continuous overcurrent exerts a magnetic pull on the armature until it and the piston have travelled their full stroke, thus tripping the breaker.

The linkage between the armature and piston is connected by a heavy nonadjustable restraining spring. At currents exceeding 15 times normal breaker rating the magnetic force exerted upon the armature is sufficient to overcome this heavy restraining spring and instantaneously trip the breaker without waiting for the piston to move.

Time-current characteristics are shown in Figure 3. General-purpose characteristic 1C gives sufficient time delay for use on general-purpose loads not having heavy motor-starting inrush currents. Motor-branch-feeder characteristic 1B gives sufficient time delay to ride over heavy motor-starting inrush currents. (It is similar to the characteristic produced by thermal overload devices.)

The entire overcurrent trip device is assembled into a molded phenolic case and all external adjustments are thoroughly insulated from energized parts.

By adding a simple mechanical escapement, a "short-time" characteristic may also be included. Breakers including all three characteristics—instantaneous, short-time (cycles), and long-time (seconds) are designed for use in completely selective distribution systems. Complete selectivity at all currents up to the interrupting rating of the breakers can be obtained in a chain of as many as four breakers in series. Refer to your distributor for further information regarding this application.

G-E AIR CIRCUIT BREAKERS
TYPE AH-1
MOLDED-CASE BREAKERS

APPLICATION

Fig. 1. Type AH-1 air circuit breaker, 3-pole, 225-ampere frame size

Type AH-1 air circuit breakers are designed to provide automatic overcurrent and short-circuit protection for general service on 125- to 600-volts, a-c, or 125/250-volt d-c circuits. They are completely enclosed units used in place of fuses or fused switches on panelboards, switchboards, bus ducts, individual circuits, and other applications.

These breakers provide positive control and protection for building and industrial circuits. They are for use in panelboards and other load centers as a modern substitute for fuses and fused switches; in dead-front switchboard assemblies; and for individual circuits and outlets.

Their totally enclosed construction eliminates fire hazard, assures safety of operators, and discourages tampering. Service can be restored easily and quickly.

The handle indicates plainly which breaker in a group has tripped. To restore service, the handle is simply moved to the "off" and then to the "on" position.

FEATURES

Completely enclosed in high-strength, dead-front, molded case

High interrupting capacity

Interchangeable trip units have clearly visible ampere ratings, seen through slot in breaker cover

Available either back, or front connected

Trip-free toggle mechanism—quick make and quick break

Breakers have common trip bar so that overload on any pole operates all

Nonwelding alloy contacts

INDIVIDUAL CIRCUITS

These breakers are used for service entrance, load centers, and individual circuits where enclosing boxes or where weather-tight and dust-tight or explosion-proof boxes are desired.

PANEL BOARDS

The breakers are applicable to **panel boards.**

BUS DUCTS

These breakers can be adapted for use in enclosed bus bar distribution systems, such as the Trumbull Types FCE and FHE Flex-A-Plug arrangements.

FEEDER PROTECTION

The breaker tripping elements are rated in accordance with the ratings of wires, as established by the National Electrical Code.

The breakers may be used on any low-voltage circuit, such as light and power circuits, whether a-c or d-c, extending from a switchboard, and for incoming service or any distributing center. Usually, overcurrent protection is required at every point where conductor size is reduced.

MOTOR-BRANCH-CIRCUIT PROTECTION

Where the breakers are to be used as protectors for motor branch circuits, motor running protective devices are usually located near the motor and, therefore, protect only the motor windings against sustained overload, up to the locked rotor condition, with a time lag sufficient to permit the motor to start. Motor starters are not designed to provide short-circuit protection; circuit breakers are used for this function. They are located at the point where the circuit originates, and provide protection to the entire branch circuit. The circuit breaker should not operate on motor overloads.

To provide this protection and to prevent improper operation, the breakers should have a rating of at least 125 to 250 per cent of the motor current rating.

600 Volts, A-c; 250 Volts, D-c

Continuous Rating, Amperes	Interrupting Rating, Amperes		2-pole		3-pole	
	A-c	D-c	Net Price	Shipping Weight, Lb	Net Price	Shipping Weight, Lb
225-ampere Frame Size						
70, 100, 125, 150, 175, 200, 225	15,000	10,000	**$95**	35	**$118**	40
600-ampere Frame Size						
125, 150, 175, 200, 225, 250, 275, 300, 350, 400, 450, 500, 600	25,000	20,000	**$234**	50	**$300**	60

G-E AIR CIRCUIT BREAKERS
TYPE AH-1
MOLDED-CASE BREAKERS

PRICES INCLUDE

A manually operated, front-connected breaker, complete with:

(a) Removable, interchangeable, dual-thermal and instantaneous trip unit, having one trip element per pole.

(b) Full set of pressure-type terminal connectors.

(c) Removable operating handle extension.

For back connection, add price of studs from accessories table.

ACCESSORIES

Addition	Net Price, Each	
	225-ampere Frame Size	600-ampere Frame Size
Trip unit, double-pole†	$26	$73
Trip unit, triple-pole†	34	99
Studs for back connection‡	1	3
Shunt trip device§	29	29
Instantaneous undervoltage device§	29	29
Bell alarm switch	12	12
Mechanical interlock	29	37
Auxiliary switch, 1 contact	12	12
Auxiliary switch, 2 contacts	17	17
Auxiliary switch, 3 contacts	22	22
Auxiliary switch, 4 contacts	25	25

† Each interchangeable trip unit includes the thermal and the instantaneous magnetic trip elements for each pole combined into a single sealed unit.

‡ Two studs are required per pole (6 for a 3-pole breaker). Studs are furnished with necessary nuts, washers, etc. Soldering lugs or other connectors are not furnished.

§ Breaker can be furnished with shunt trip or undervoltage device, **but not both.**

DIMENSIONS

Dimensions are subject to change, and should not be used for construction without approval.

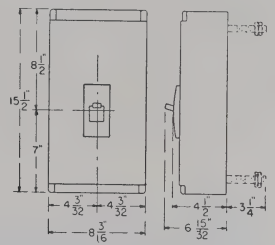


Fig. 2. Type AH-1, 225-ampere frame size, 2- and 3-pole

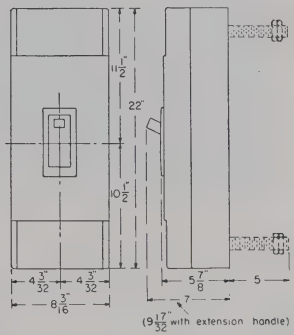


Fig. 3. Type AH-1, 600-ampere frame size, 2- and 3-pole

WHEN YOUR REQUIREMENTS ARE ELECTRICAL

AND YOU NEED ASSISTANCE — WRITE OR

PHONE OUR NEAREST OFFICE —

YOUR REQUESTS WILL RECEIVE CAREFUL,

PROMPT ATTENTION

G-E MEDIUM-VOLTAGE SWITCHGEAR
STANDARD LIGHT-DUTY METAL-CLAD EQUIPMENTS
With Magne-blast Power Circuit Breakers
50,000 KVA INTERRUPTING CAPACITY—3-PHASE, 3-WIRE
4160 VOLTS—600 AND 1200 AMPERES

APPLICATION

The metal-clad switchgear briefly described in this section will provide the advantages obtainable in complete factory-assembled, metal-enclosed, safety-type switching equipments for general power service in power plant main and auxiliary circuits, steel mills, and other types of industrial applications, distribution substations, office buildings, hotels, theaters, department stores, hospitals, educational and public buildings, and other similar locations. It will provide proper and reliable control for generators, transformers, incoming power and tie lines, feeder circuits, bus-tie and bus-sectionalizing circuits, synchronous and induction motor and condenser circuits, power capacitors, electric furnaces, and other kinds of apparatus.

Standard light-duty metal-clad switchgear for the control of feeder and motor circuits

The equipment is now available in **standardized unit construction** for installation where the interrupting rating requirements for the **magne-blast power circuit breakers** do not exceed 50,000 kva, and the service voltage is not in excess of 4160 volts.

The **factory-built standard units** have been installed (at a minimum over-all installation cost) in many important applications where reliability in the performance of the switchgear equipment is of first importance.

FEATURES	ADVANTAGES
Completely metal-enclosed; segregated metal compartments for bus, instrument transformers, breaker, etc.	No hazard to personnel—fire hazard minimized; long life.
Liberal insulation	Service continuity.
Easily removed vertical-lift breakers; drawout potential transformers and fuses; drawout relays and meters	Easy to maintain—short outage time.
Co-ordinated switchgear components	Balanced engineering and design.
Sequence interlocking	Safety to operators; continuity of service.
Complete primary and secondary control assembly, factory-built	Lower over-all installation cost and purchasing expense; a finished, tested job.
Shipped assembled	Easy to install, and at a low cost.
Standard unit construction	Low initial cost; flexibility in application; easy future expansion; simplifies station planning; high salvage value saves system investment.

G-E STANDARD LIGHT-DUTY METAL-CLAD EQUIPMENTS

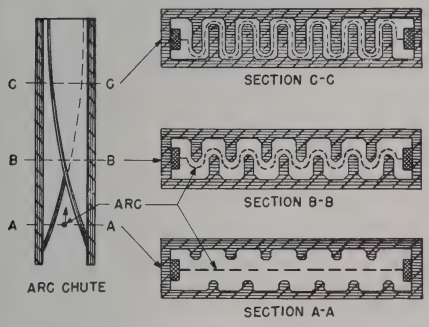
With Magne-blast Power Circuit Breakers

TYPE AM (OILLESS) MAGNE-BLAST POWER CIRCUIT BREAKERS STRETCH THE ARC TO DESTRUCTION

The magne-blast breaker interrupts by magnetically forcing the arc into a series of gradually interleaving, closely spaced, insulating barriers. These barriers both elongate the arc and absorb its heat, so that the electrical resistance in the path of the arc is greatly increased. This increased resistance reduces both the current and the phase angle of the circuit. At an early current zero the arc path is so long, the voltage is so reduced, and the gases produced by the arc are so cooled that the arc cannot re-establish itself; and interruption occurs.

There are three sets of contacts on the magne-blast breakers; the silver-inlaid primary contacts, the intermediate contacts, and arcing contacts of an arc-resistant alloy. On opening, the primary contacts part first, shunting the current across the intermediate contacts. The intermediate contacts part next, shunting the current through the magnetic blowout coil and the arcing contacts. Thus the magnetic force will be sufficiently well established to drive the arc when the arc is drawn on the arcing contacts. As the arc is driven into the chute, other coils, added in series, provide additional force for driving the ever-lengthening arc.

The solenoid mechanisms used on the magne-blast breakers are the same as those used for many years on oil breakers. Conventional control and familiar equipment are therefore used in the mechanism of magne-blast breakers.



Schematic diagram showing the elongation of the arc in the magne-blast circuit

At Section A-A the arc is formed in a line between the parting contacts. As the arc is forced into the chute, the fins constrict it and force it into serpentine path, as shown in Section B-B, and finally, C-C.

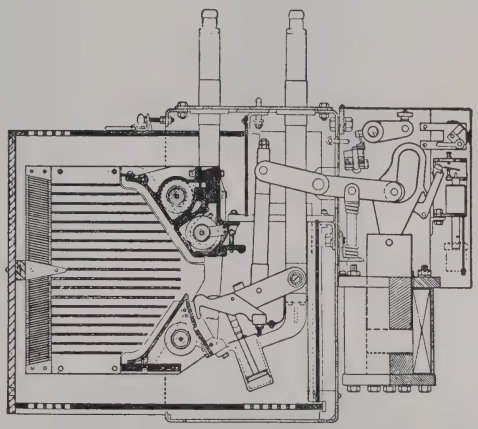
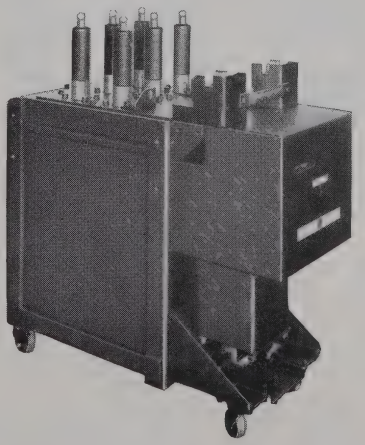


Diagram of section through magne-blast circuit breaker, showing contacts (in open position), blowout coils, and one side of arc chute with fins (other side of arc chute removed to show details of construction)

BREAKERS ARE SAFELY AND QUICKLY WITHDRAWN OR REPLACED

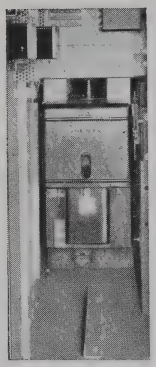
The circuit breaker is easily lowered from the operating position to either a disconnected position, or for removal from the stationary structure for transportation to another location for inspection and maintenance. A spare breaker can be inserted to continue operation and reduce outage time to a minimum.



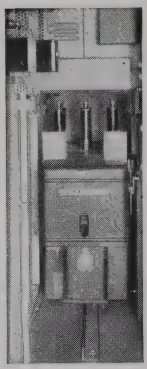
Removable element, consisting of power circuit breaker, solenoid mechanism, and disconnecting devices

G-E STANDARD LIGHT-DUTY METAL-CLAD EQUIPMENTS

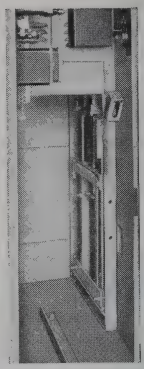
With Magne-blast Power Circuit Breakers



Breaker in operating position

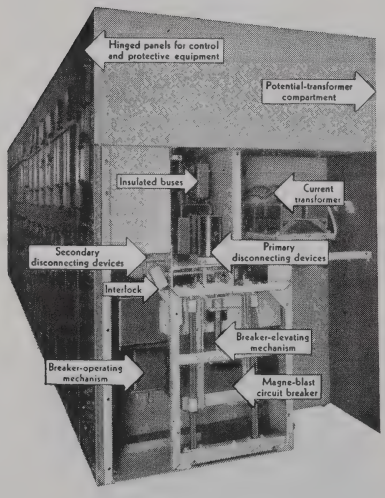


Breaker in disconnected position

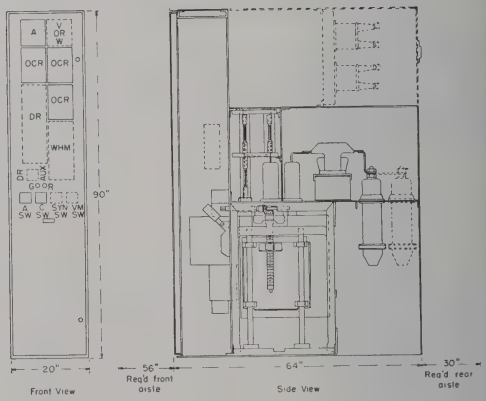


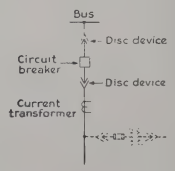
Breaker withdrawn for inspection

CONSTRUCTION



End view of standard, light-duty, metal-clad switchgear equipment; side plate removed to show relative location of component parts





Schematic connections for feeder unit

G-E INDOOR POWER CIRCUIT BREAKERS

TYPE FK-33

2500 VOLTS—400 AMPERES—15,000 KVA
12-CYCLES INTERRUPTING TIME

APPLICATION

These breakers are suitable for light-duty applications on circuits within their voltage and continuous-current ratings. The rated interrupting current of the breaker must be as great as, or greater than, the maximum short-circuit current which it may be called upon to interrupt.

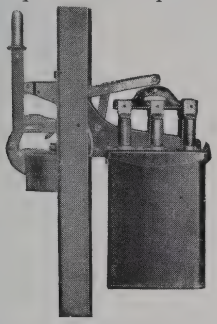


Fig. 1. Type FK-33, triple-pole, manually operated breaker for panel mounting. (Terminal connectors and trip coils not shown)

PRICES INCLUDE

Manually Operated
Single-throw

Breaker with Type HA-2 trip-free manual mechanism including necessary instantaneous or time trips. (Current transformers and relays not included.)

Standard bolted-type terminal connectors **(no deduction for omission).**

Necessary oil (2- and 3-pole breakers, 4 gallons; 4-pole breakers, 5 gallons).

Double-throw

Consists of a double-throw breaker with integral mechanical interlock and two operating levers with mechanical cross trip.

Electrically Operated A-c or D-c
Single-throw

Breaker with Type MS-5B solenoid mechanism mounted back-to-back on a steel plate, direct coupled. Closing relay.

1—potential trip coil (Current-trip coils, relays, and current transformers not included).

4-stage auxiliary switch.

Terminal board.

Standard bolted-type terminal connectors **(no deduction for omission).**

Necessary oil (2- and 3-pole breakers, 4 gallons; 4-pole breakers, 5 gallons).

Copper-oxide rectifier (if a-c operated).

Maintenance closing device, if required.

Double-throw

Consists of a double-throw breaker and two solenoid mechanisms, electrically interlocked.

Rated			Poles	Net Price—Single-throw Breaker*			Interrupting Rating Rms Total Amps		Approx Net Wt in Lb Including Oil	
				Manually Operated	Electrically Operated					
Interrupting Kva	Volts	Amperes at 25 and 60 Cycles		Direct Operation for Panel Mounting	For Pipe Framework, or Cell, Mounting		At Rated Voltage	Maximum Rating	Manual Panel Mounted	Solenoid Operated D-c
					Solenoid D-c	Solenoid 220 V. A-c				
15,000	2500	400	2 or 3	$220	$385	$495	3500	3800	97	248
			4	330	495	600			119	270

ACCESSORIES AND ATTACHMENTS

Description	Net Price‡	
	Manually Operated Breaker	Electrically Operated Breaker
Auxiliary Switch		
First stage	$15	§
Additional stages, up to a total of 8 ..... Each	5	$5
Set of current trip coils	†	100
Undervoltage device, A-c or D-c		
Instantaneous (if current coils also are ordered)	60	60
Instantaneous (if current coils are not ordered)	.....	110
Time delay (if current coils also are ordered)	110	110
Time delay (if current coils are not ordered)	.....	160
Bell alarm switch	5	.....
Mechanical sequence interlock, for double-throw breakers	45	.....

* For a DOUBLE-THROW breaker, the price is exactly twice that of the corresponding single-throw breaker.

† Included in price of breaker.

‡ Prices apply only when sold with new breaker.

§ Four-stage switch included with breaker.

G-E INDOOR POWER CIRCUIT BREAKERS

TYPE FK-33

DIMENSIONS

Dimensions are subject to change and should not be used for construction without approval.

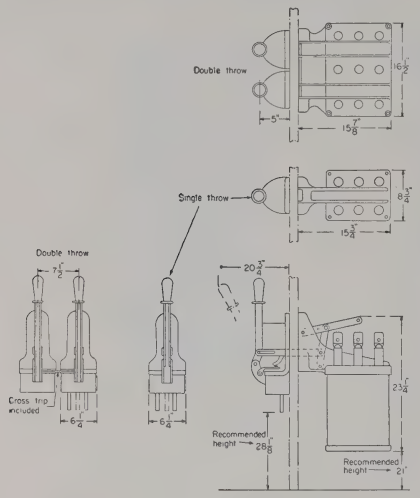


Fig. 2. Type FK-33 triple-pole, single- and double-throw, manually operated breaker for panel mounting

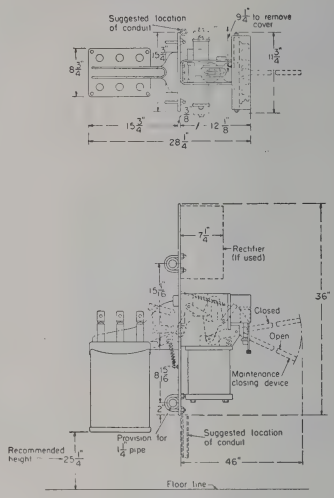


Fig. 3. Type FK-33 triple-pole, single-throw, electrically operated breaker

TYPE FK-142

4.16 Kv—600 Amperes—25,000 Kva

TYPE FK-143

4.16 and 7.2 Kv—600 and 1200 Amperes—50,000 Kva

8 Cycles Interrupting Time

APPLICATION

These breakers are suited for medium-duty applications on circuits within their voltage and continuous-current ratings. The rated interrupting current of the breaker must be as great as, or greater than, the maximum short-circuit current which it may be called upon to interrupt.

Rated				Net Price—Single-throw Breaker*			Interrupting Rating Rms Total Amps ‡		Approx Net Wt in Lb Including Oil	
				Manually Operated	Electrically Operated					
Interrupting Kva and Type ‡	Volts	Amp at 60 Cycles §	Poles	Direct Operation for Panel Mounting	For Pipe Framework, or Cell, Mounting		At Rated Voltage	Maximum Rating	Manual Panel Mounted	Solenoid-operated D-c
					Solenoid D-c	Solenoid (Rectifier) A-c				
25,000 FK-142	4160	600	2 or 3	$360	$550	$660	3500	6300	225	390
			4	520	715	825			285	460
50,000 FK-143	7200 4160	600 1200	2 or 3	900	1100	1265	4000 7000	12,500	325 400	470 585

* For a double-throw breaker, the price is exactly twice that of the corresponding single-throw breaker.
‡ Interrupting rating of FK-142 breakers, based on CO-2 min-CO duty cycle, and of FK-143, based on CO-15 sec.-CO duty cycle.
§ 25-cycle ratings, as compared with 60-cycle ratings, are 600–700 and 1200–1400.

G-E INDOOR POWER CIRCUIT BREAKERS

TYPE FK-142 AND FK-143

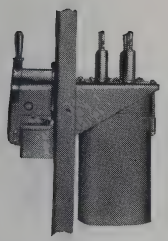


Fig. 1. Type FK-142, triple-pole, 600-amp, manually operated, panel-mounted (Terminal connectors and trip coils not shown)

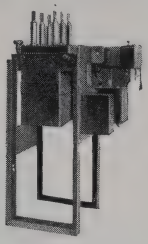


Fig. 2. Type FK-143, triple-pole, 600-amp, electrically operated, frame-mounted (Terminal connectors not shown)

PRICES INCLUDE

Manually Operated
Single-Throw

Breaker with Type HC-5 trip-free manual mechanism including necessary instantaneous or time trips. (Current transformers and relays not included.)

Standard bolted-type terminal connectors *(no deduction for omission).*

Necessary oil (2- and 3-pole FK-142 breakers, 6 gallons; 4-pole FK-142 breakers, 8 gallons; 2- and 3-pole FK-143 breakers, 9 gallons).

Double-throw

Consists of two single-throw breakers with mechanical interlock, and two operating levers with mechanical cross trip.

Electrically Operated (A-c or D-c)
Single-throw

Breaker with Type MS-5B trip-free solenoid mechanism, mounted back-to-back on a steel plate, direct-coupled, supported by steel framework.

Closing relay

1—Potential trip coil. (Current-trip coils, relays, and current transformers not included.)

4-stage auxiliary switch

Terminal board

Standard bolted-type terminal connectors *(no deduction for omission).*

Necessary oil (2- and 3-pole FK-142 breakers, 6 gallons; 4-pole FK-142 breakers, 8 gallons; 2- and 3-pole FK-143 breakers, 9 gallons).

Copper-oxide rectifier (if a-c operated).

Maintenance closing device, if required.

Double-Throw

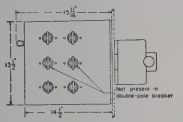
Consists of two single-throw breakers, and two solenoid mechanisms electrically interlocked.

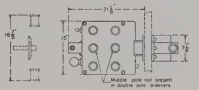
Accessories and Attachments

Description	Net Price*			
	Manually Operated		Electrically Operated	
	FK-142 Breaker	FK-143 Breaker	FK-142 Breaker	FK-143 Breaker
Auxiliary Switch				
First stage	$15	$15	†	†
Additional stages, up to a total of 8, each	5	5	$5	$5
Set of Current Trip Coils	‡	‡	100	100
Undervoltage Device, A-c or D-c				
Instantaneous (if current coils are also ordered)	60	60	60	60
Instantaneous (if current coils are not ordered)	.....	.....	110	110
Time Delay (if current coils also are ordered)	110	110	110	110
Time Delay (if current coils are not ordered)	.....	.....	160	160
Bell Alarm Switch	5	5	.....	.....
Windlass-type Tank Lifter	.....	110	.....	110

* Prices apply only when sold with new breaker. † Four-stage switch included with breaker. ‡ Included in price of breaker.

Dimensions—Dimensions are subject to change and should not be used for construction without approval.





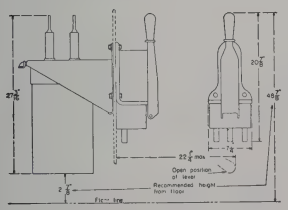


Fig. 3. Type FK-142, manually operated, panel-mounted

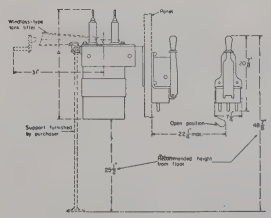


Fig. 4. Type FK-143, manually operated, panel-mounted

G-E SMALL OUTDOOR POWER CIRCUIT BREAKERS

TYPE FKO-227 — **7.2 Kv—600 Amp—50 Mva**

TYPE FLO — **14.4 Kv—600 and 1200 Amp—100 and 250 Mva**

Interrupting Time—8 Cycles

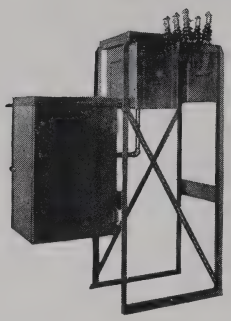


Fig. 1. Type FKO-227-100 breaker

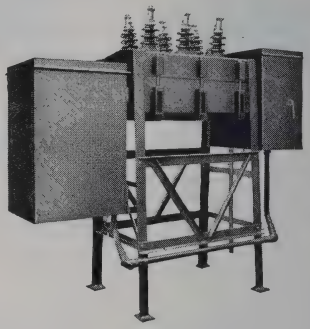


Fig. 2. Type FLO breaker

NOTE—Figures 1 and 2 show standard automatic reclosing equipment housing mounted on left end of breaker framework. This equipment is not present if "breaker only" is furnished.

Breaker Type	Rating*			Breaker Only				Standard Automatic Reclosing Breaker			
				Net Price			Net Wt in Lb Incl Oil §	Net Price			Net Wt in Lb Incl Oil §
	Kv	Amp at 60 cycles	Mva	Manually Operated	Electrically Operated			D-c Close D-c Trip	A-c Close D-c Trip	A-c Close A-c Trip	
					D-c	A-c					
FKO-227-50	7.2	600	50	**$1200**	**$1200**	**$1350**	900	**$2320**	**$2470**	**$2745**	1400
FLO-15-100	14.4	600	100	**2300**	**2300**	**2450**	1825	**3420**	**3570**	**3845**	2325
FLO-15-250	14.4	600	250	.....	**3100**	**3250**	1850	**4270**	**4420**	**4695**	2350
FLO-15-250	14.4	1200	250	.....	**3850**	**4000**	1900	**4970**	**5120**	**5395**	2400

* Interrupting ratings are listed on next page

§ FKO-227 breaker uses 9 gallons of oil; FLO, 25 gallons.

OPTIONAL MODIFICATIONS (STANDARD AUTOMATIC RECLOSING BREAKER ONLY)

1—Ground relay, time-overcurrent, single-pole, arranged for d-c trip, with instantaneous unit if required.....$115

Substitute 1 triplex thermal demand ammeter for 3 miniature ammeters.....$100

ACCESSORIES

Tank Lifter $100

PRICES INCLUDE

BREAKER ONLY MANUAL OPERATION

T-p, s-t breaker

Framework; or bracket for pole-mounted (7.5 kv only)

3-bushing current transformers *(relay type)* in standard location (bushings 2-4-6).

Trip-free manual mechanism including necessary instantaneous or time trip coils (a-c or d-c)

Direct, for framework-mounted;
Remote, for pole-mounted.

Clamp-type terminal connectors

Oil (GE-10C)

Auxiliary switch (8-stage)

ELECTRICAL OPERATION A-C AND D-C

T-p, s-t breaker

Framework; or bracket for pole-mounted (7.5 kv only)

Trip-free solenoid mechanism

Copper-oxide rectifier for a-c operation only

Necessary trip coils (a-c or d-c)

Auxiliary switch (8-stage)

Latch checking switch

Closing relay

Clamp-type terminal connectors

3-bushing transformers *(relay type)* in standard location (bushings 2-4-6).

Maintenance closing device

Operation counter

Oil (GE-10C)

Control power switch

G-E SMALL OUTDOOR POWER CIRCUIT BREAKERS

TYPE FKO-227 AND TYPE FLO

PRICES INCLUDE (continued)

STANDARD AUTOMATIC RECLOSING BREAKER

D-C CLOSE AND TRIP

Breaker complete, electrically operated, as listed under "Breakers Only," PLUS:

1—Relay cabinet, with:

1—Reclosing relay (3—reclosures).

3—Relays, time-overcurrent, single-pole arranged for d-c trip, with instantaneous unit if required.

3—Miniature ammeters.

1—Control switch, with red and green indicating lamps.

1—Selector switch, to include or cut out reclosing feature.

Necessary small wiring.

Terminal boards, with designation strips.

A-C CLOSE, D-C TRIP

Same as d-c close and trip, PLUS:

1—Copper-oxide rectifier to permit a-c closing.

A-C CLOSE AND TRIP

Same as a-c close, d-c trip, PLUS:

Necessary modifications in trip coils to permit a-c tripping.

INTERRUPTING RATINGS

Type	Ratings		Interrupting Rating†			Withstand Test Kv	
	Kv	Amp at 60 Cycles	Mva	RMS Total Amp		60-cycle	Impulse
				At Rated Voltage	Maximum Rating		
FKO-227-50	7.2	600	50	4,000	12,500	26	75
FLO-15-100	14.4	600	100	4,000	15,000	50	110
FLO-15-250	14.4	600 1200	250	10,000	25,000	50	110

† These ratings are based upon the standard duty cycle, consisting of two unit operations with either a 15-second or 2-minute interval. Any deviation from the standard duty cycle requires a modification of the standard ratings.

TYPE FKO-227

DIMENSIONS

Standard Automatic Reclosing Breaker

For framework-mounted breakers, the overcurrent and reclosing equipment housing is mounted as shown in Fig. 1. Approximate dimensions of the housing are indicated in Fig. 7. For pole-mounted breakers this equipment is usually mounted remote from the breaker, by purchaser.

Dimensions are subject to change and should not be used for construction without approval.

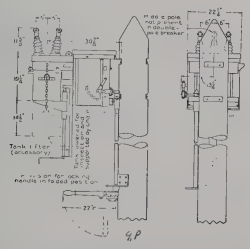


Fig. 3. Type FKO-227 pole-mounted, remote manually operated breaker

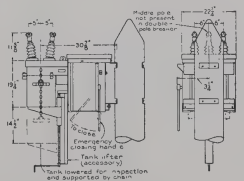


Fig. 4. Type FKO-227 pole-mounted, electrically operated breaker

G-E SMALL OUTDOOR POWER CIRCUIT BREAKERS

DIMENSIONS—Dimensions are subject to change and should not be used for construction without approval.

TYPE FKO-227

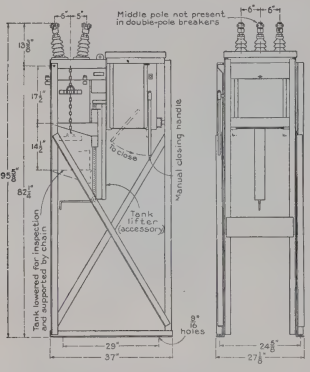


Fig. 5. Type FKO-227 framework-mounted, manually operated breaker

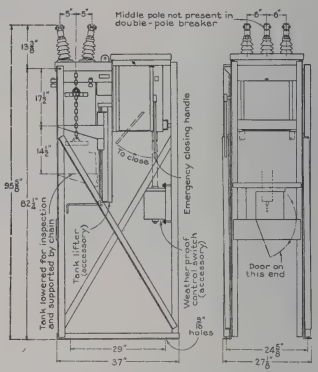
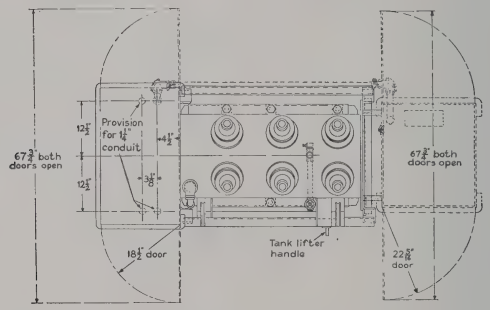


Fig. 6. Type FKO-227 framework-mounted, electrically operated breaker

TYPE FLO



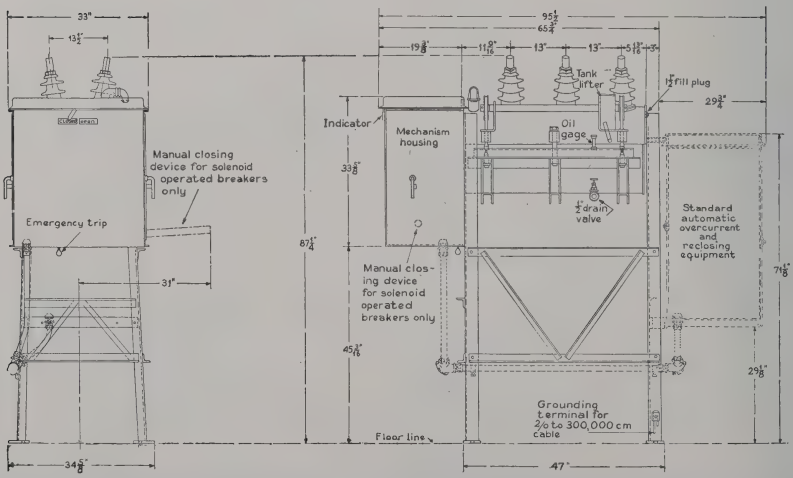


Fig. 7. Dimensions of frame-mounted, solenoid-operated or manually operated, 600-ampere, Type FLO power circuit breakers. (Dimensions of 1200-ampere breaker is identical except that the over-all height is increased approximately 1 inch.)

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE SB-1 CONTROL AND TRANSFER SWITCHES

For Panel Mounting

600 Volts, A-c or D-c

For Circuit-breaker and Motor Control—For Instrument Transfer

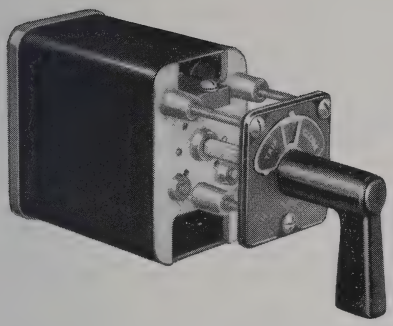


Fig. 1. Circuit-breaker control switch, 4-stage, with fixed handle

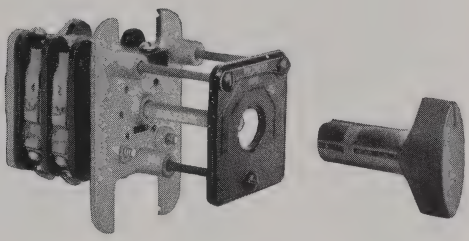


Fig. 2. Synchronizing switch with removable non-interchangeable handle (cover removed)

Service, Poles, and Throw	Stages	Fixed Handle, Unless Otherwise Specified	Spring Return	Escutcheon Marking Front View, Unless Otherwise Specified	Model Number*			Net Price, Each	Approx Ship. Wt in Lb
					⅛ Inch Thick Panel	1 Inch Thick Panel	1⅛ Inch Thick Panel		
Motor Control									
Governor motor—dt	4	Radial	With	Raise-lower	16SB1A1X2	16SB1A1X16	16SB1A1X24	**$25.00**	4
Governor or exciter rheostat—dt	4	Handwheel, 2½ in. diam.	With	Raise-lower	16SB1A2X2	16SB1A2X16	16SB1A2X24	**25.00**	4
Circuit-breaker Control									
Close and trip	2	Pistol grip	With	Trip-close—with flag	16SB1B1X2	16SB1B1X16	16SB1B1X24	**$21.00**	3
Close and trip, with auxiliary contacts	4	Pistol grip	With	Trip-close—with flag	16SB1B2X2	16SB1B2X16	16SB1B2X24	**24.00**	4
Trip, contacts normally open	1	Pistol grip	With	Trip	16SB1B3X2	16SB1B3X16	16SB1B3X24	**19.00**	3
Trip, contacts normally closed	1	Pistol grip	With	Trip	16SB1B4X2	16SB1B4X16	16SB1B4X24	**19.00**	3
Trip, contacts normally closed	2	Pistol grip	With	Trip	16SB1B5X2	16SB1B5X16	16SB1B5X24	**21.00**	3
One throw closed—substitute for pushbutton station	2	Pistol grip	With	Trip-close—with flag	16SB1B7X2	16SB1B7X16	16SB1B7X24	**23.00**	3

*Note: Switches are available for mounting on panels 2 inches thick or less. Model numbers are listed only for the three most common panel thicknesses; for other panel thicknesses, model numbers are derived by substituting the appropriate suffix number following the "X" in the model number. The suffix number indicates the number of one-sixteenths of an inch panel thickness. For example: 3 = 3/16 in., 4 = ¼ in., 5 = 5/16 in., 8 = ½ in., etc.

ORDERING DIRECTIONS

Order by complete model number, including proper numeral suffix to indicate panel thickness.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE SB-1 CONTROL AND TRANSFER SWITCHES

Service, Poles, and Throw	Stages	Type of Handle	Spring Return	Escutcheon Marking, Front View, Unless Otherwise Specified	Model Number*			Net Price, Each	Approx Ship. Wt. in Lb
					¼ Inch Thick Panel	1 Inch Thick Panel	1½ Inch Thick Panel		
Instrument Switches, with Fixed Handle									
Voltmeter—3-phase—phase-to-phase	2	Knurled	None	Off, 1-2, 2-3, 3-1	16SB1CF11X2	16SB1CF11X16	16SB1CF11X24	$21.00	4
Voltmeter—phase-to-neutral, sp3t	2	Knurled	None	Off, 1, 2, 3	16SB1C6X2	16SB1C6X16	16SB1C6X24	20.00	3
Voltmeter—dpst	1	Knurled	None	Off-on	16SB1CA1X2	16SB1CA1X16	16SB1CA1X24	19.00	3
Voltmeter—dpdt	2	Knurled	None	1-off-2	16SB1CE27X2	16SB1CE27X16	16SB1CE27X24	21.00	3
Ammeter{connect at ends	3	Knurled 3 C.T.'s	None	1-2-3	16SB1CE24X2	16SB1CE24X16	16SB1CE24X24	23.00	4
Ammeter}of C.T. leads	2	Knurled 2 C.T.'s	None	1-2-3	16SB1CE25X2	16SB1CE25X16	16SB1CE25X24	21.00	3
3-phase ammeter—3 independent circuits	6	Knurled	None	1-2-3	16SB1CA7X2	16SB1CA7X16	16SB1CA7X24	26.00	5
Power factor or watt-meter reverse—4pdt	4	Knurled	None	In-out	16SB1CA10X2	16SB1CA10X16	16SB1CA10X24	25.00	4
W-rva meter—4 pdt	4	Knurled	None	W-off-Rva	16SB1CB4X2	16SB1CB4X16	16SB1CB4X24	25.00	4
Spst—double-break	1	Pistol grip	None	On-off	16SB1CE1X2	16SB1CE1X16	16SB1CE1X24	19.00	3
Sp3t—double-break	3	Pistol grip	None	For -off-rev	16SB1CE2X2	16SB1CE2X16	16SB1CE2X24	23.00	4
Sp4t—double-break	4	Pistol grip	None	1-2-3-4	16SB1CE3X2	16SB1CE3X16	16SB1CE3X24	25.00	4
Dpst—double-break	2	Pistol grip	With	Off-test	16SB1CE4X2	16SB1CE4X16	16SB1CE4X24	21.00	3
Dpdt—double-break—regulator transfer	4	Pistol grip	None	Stop-run	16SB1CE7X2	16SB1CE7X16	16SB1CE7X24	25.00	4
Sp4t—single-break	2	Knurled	None	1-2-3-4	16SB1CE34X2	16SB1CE34X16	16SB1CE34X24	21.00	3
Sp6t—single-break	3	Knurled	None	1-2-3-4-5-6	16SB1CE35X2	16SB1CE35X16	16SB1CE35X24	23.00	4
Sp8t—single-break	4	Knurled	None	1-2-3-4-5-6-7-8	16SB1CE36X2	16SB1CE36X16	16SB1CE36X24	25.00	4
Sp12t—single-break	6	Knurled	None	1-2-3-4-5-6-7-8-9-10-11-12	16SB1CE37X2	16SB1CE37X16	16SB1CE37X24	29.00	6
Dp4t—single-break	4	Knurled	None	1-2-3-4	16SB1CE9X2	16SB1CE9X16	16SB1CE9X24	25.00	4
Dp6t—single-break	6	Knurled	None	1-2-3-4-5-6	16SB1CE10X2	16SB1CE10X16	16SB1CE10X24	29.00	6
Dp8t—single-break	8	Knurled	None	1-2-3-4-5-6-7-8	16SB1CE11X2	16SB1CE11X16	16SB1CE11X24	33.00	7
Dp12t—single-break	12	Knurled	None	1-2-3-4-5-6-7-8-9-10-11-12	16SB1CE12X2	16SB1CE12X16	16SB1CE12X24	41.00	8
3pdt—double-break	6	Pistol grip	None	Start-off-run	16SB1CE18X2	16SB1CE18X16	16SB1CE18X24	29.00	6
3pdt—single-break	3	Knurled	None	Suprvy-off-local	16SB1CE19X2	16SB1CE19X16	16SB1CE19X24	23.00	3
4dst—double-break	4	Knurled	None	On-off	16SB1CE20X2	16SB1CE20X16	16SB1CE20X24	25.00	4
4pdt—single-break	4	Knurled	None	1-2	16SB1CE22X2	16SB1CE22X16	16SB1CE22X24	25.00	4
Reversing switch for 1-current coil	2	Knurled	None	In-out	16SB1CE23X2	16SB1CE23X16	16SB1CE23X24	21.00	3
Potential transfer	4	Knurled	None	Off, 1, 2, 3	16SB1CE26X2	16SB1CE26X16	16SB1CE26X24	23.00	4
4pdt—single-break	4	Knurled	None	1-off-2	16SB1CE38X2	16SB1CE38X16	16SB1CE38X24	25.00	4
Temperature-meter transfer, 2 wires, 3 coils, and test	4	Knurled	None	Test 1-2-3	16SB1CE28X2	16SB1CE28X16	16SB1CE28X24	25.00	4
Temperature-meter transfer, 3 wires, 3 coils, and test	6	Knurled	None	Test 1-2-3	16SB1CE29X2	16SB1CE29X16	16SB1CE29X24	29.00	6
Temperature-meter transfer, 2 wires, 5 coils, and test	6	Knurled	None	Test-1-2-3-4-5	16SB1CE33X2	16SB1CE33X16	16SB1CE33X24	29.00	6
Instrument Switches, with Removable Handle									
Voltmeter—3-phase—phase-to-phase	2	Oval, 16SB1CC1	None	Off, 1-2, 2-3, 3-1	16SB1CF12X2	16SB1CF12X16	16SB1CF12X24	$20.50	4
Voltmeter—phase-to-neutral, sp3t	2	Oval, 16SB1CC1	None	Off, 1, 2, 3	16SB1C7X2	16SB1C7X16	16SB1C7X24	19.50	3
Voltmeter—dpst	2	Oval, 16SB1CC3	None	Off-on	16SB1CA4X2	16SB1CA4X16	16SB1CA4X24	18.50	3
Power factor—1 cur. coil	2	Oval, 16SB1CC5	None	Offon	16SB1CA8X2	16SB1CA8X16	16SB1CA8X24	19.50	3
Power factor—1 cur., 2 pot. coils	3	Oval, 16SB1CC5	None	Off-on	16SB1CF6X2	16SB1CF6X16	16SB1CF6X24	21.50	4
Wattmeter—2 cur. coils	3	Oval, 16SB1CC6	None	Off-on	16SB1CF7X2	16SB1CF7X16	16SB1CF7X24	22.50	4
Wattmeter—3 cur. coils	5	Oval, 16SB1CC6	None	Off-on	16SB1CF8X2	16SB1CF8X16	16SB1CE8X24	25.50	6
Wattmeter—2 cur., 2 pot. coils	6	Oval, 16SB1CC6	None	Off-on	16SB1CB3X2	16SB1CB3X16	16SB1CB3X24	24.50	6
Synchroscope—spdp—3-position; sprun—dpstart.	2	{Oval, 16SB1CC7 "I" and 16SB1CC8 "R"}	None	R-I	16SB1CB5X2	16SB1CB5X16	16SB1CB5X24	19.50	3
Synchronizing—4pst	2	Oval, 16SB1CC7	None	Off-on	16SB1CF9X2	16SB1CF9X16	16SB1CF9X24	20.50	4
Regulator transfer—dpdt	2	Oval, 16SB1CC11	None	Left-off-right	16SB1CE5X2	16SB1CE5X16	16SB1CE5X24	20.50	3

*Note: Switches are available for mounting on panels 2 inches thick or less. Model numbers are listed only for the three most common panel thicknesses; for other panel thicknesses, model numbers are derived by substituting the appropriate suffix number following the "X" in the model number. The suffix number indicates the number of one-sixteenths of an inch panel thickness. For example. 3 = 3/16 in., 4 = ¼ in., 5 = 5/16 in., 8 = ½ in., etc.

ORDERING DIRECTIONS

Order by complete Model Number. For Switches with removable handles specify handle also and add $2.00 to selling price. *Removable handles are not included in price of switch.*

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE SB-1 CONTROL AND TRANSFER SWITCHES

Ratings of SB-1 Switch Contacts

The rating of the Type SB-1 switch is 600 volts maximum, 20 amperes continuous, or 250 amperes for 3 seconds. The interrupting rating of the switch depends upon the circuit voltage, the character of the circuit, and the number of contacts connected in series, as indicated by the following table.

Circuit Volts	NONINDUCTIVE CIRCUIT			*INDUCTIVE CIRCUIT		
	Number of Contacts					
	1	2 in Series	4 in Series	1	2 in Series	4 in Series
	Interrupting Rating in Amperes					
24 D-c	6	30	.....	4	20	30
48 D-c	5	25	40	3	15	25
125 D-c	2.5	11	25	2	6.25	9.5
250 D-c	0.75	2	8	0.7	1.75	6.5
600 D-c	0.25	0.45	1.35	0.15	0.35	1.25
115 A-c	40	75	.....	24	50	.....
220 A-c	25	50	.....	12	25	40
440 A-c	12	25	.....	5	12	20
550 A-c	6	12	.....	4	10	15

* Values of inductance equal to that of the average trip circuit. For circuits having high values of inductance, refer application to your distributor for recommendations.

Switches For Class I, Group D, Hazardous Locations†

FOR PANEL MOUNTING (SPECIFY PANEL THICKNESS) 250 VOLTS, D-C—500 VOLTS, A-C

Where SB-1 switches are to be operated in explosive gaseous atmospheres, it is recommended that such switches be enclosed in explosion-proof housings. The front, or switch-support, section of the housing is made so that sufficient size of conduit opening is provided to accommodate the maximum number of control wires, as determined by the switch connections.

The tank or cover section is made in three lengths, to accommodate:

(a) A maximum of 4 stages
(b) A maximum of 8 stages
(c) A maximum of 12 stages

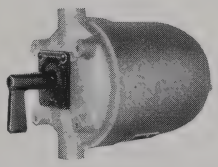


Fig. 3. Explosion-proof box with cover on

Any standard spring-return or sustained-contact Type SB-1 switch, with fixed handle, having a maximum of 12 stages, may be assembled with a housing as illustrated in Fig. 3.

SB-1 Switch and Explosion-proof Housing		Net Price, Each, Includes Switch and Housing	Approx Shipping Weight in Lb	Outlet for Std Pipe Thread, inches
Stages	Poles			
1	Single-pole, double-break, or double-pole, single-break	$54	9	
2	Double-pole, double-break, or four-pole, single-break	56	9	
3	Triple-pole, double-break, or 6-pole, single-break	58	10	½ or ¾
4	4-pole, double-break, or 8-pole, single-break	60	10	
5	5-pole, double-break, or 10-pole, single-break	62	16	
6	6-pole, double-break, or 12-pole, single-break	64	16	
7	7-pole, double-break, or 14-pole, single-break	66	18	1 or 1¼
8	8-pole, double-break, or 16-pole, single-break	68	18	
9	9-pole, double-break, or 18-pole, single-break	70	23	
10	10-pole, double-break, or 20-pole, single-break	72	24	1½ or 2
11	11-pole, double-break, or 22-pole, single-break	74	25	
12	12-pole, double-break, or 24-pole, single-break	76	25	

† This control is designed to conform with the standards of the Underwriters' Laboratories, Inc., but has not been tested or listed by the Laboratories.

WATERTIGHT, DUST-TIGHT, OR OIL-IMMERSED HOUSING FOR 600-VOLT SERVICE (Fig. 4)

For flat surface vertical mounting, the top support is common to three sizes of tanks. Small, for 1 to 4 stages, medium for 5 to 8 stages, large for 9 to 12 stages or 13 to 16 stages. Top support will be drilled and tapped to accommodate conduit or pipe of 1-inch maximum iron pipe size.

The same housing may be used for immersing the switches in oil when they are exposed to gaseous or explosive atmospheres. For such applications a 1¾ inch spacer is used to lower the switch contacts into the oil in the tank, and the number of stages per housing is one less, as indicated in the table.

Net price per housing, any size, $35 when sold with SB-1 switch.

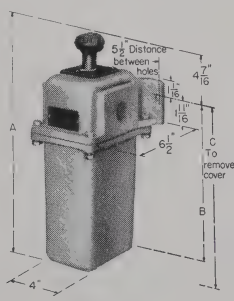


Fig. 4

Number of Stages		Dimensions in Inches (Fig. 4)		
Watertight or Dust-tight	Switch Oil Immersed	A*	B	C
1-4	1-3	11 9/16	7 1/16	10 7/8
5-8	4-7	14 9/16	10 1/16	16 7/8
9-12	8-11	17 9/16	13 1/16	22 7/8
13-16	12-15	20 9/16	16 1/16	28 7/8

* For different types of switch handles this dimension may be 1/16 to 1/8 less.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE SB-1 CONTROL AND TRANSFER SWITCHES

FABRICATED METAL HOUSING FOR 600-VOLT SERVICE (Fig. 5)

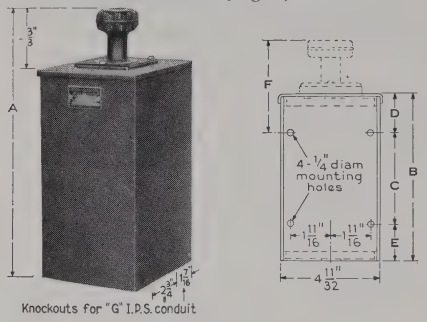


Fig. 5

Fabricated metal housings for Type SB-1 switches, for wall or flat-surface mounting, are made in 4 sizes; to accommodate switches of 1 to 6 stages, 7 to 9 stages, 10 to 12 stages, or 13 to 15 stages. Knockouts can be provided for pipe or conduit connections.

SB-1 switches mounted in these housings require different terminals. Therefore, if switch is ordered separately requisition should specify "For mounting in fabricated metal housings."

Net price per housing, any size, $12.50 when sold with SB-1 switch.

No. of Stages	Dimensions in In. (Fig. 5)						
	A	B	C	D	E	F	G
1-6	11 1/32	8 21/32	5 1/2	1 19/32	1 9/16	3 31/32	*1 1/4
7-9	13 2/32	10 29/32	7 3/4				
10-12	15 17/32	13 5/32	10				
13-15	17 25/32	15 13/32	12 1/4				

*Reducer necessary for smaller sizes.

TYPE LP-101 KNIFE SWITCHES

Back-connected for Mounting on 1-, 1¼-, 1½- or 2-in. Panels

APPLICATION

Knife switches are used as disconnecting devices for switchgear where live-front operation is permissible. They are not recommended for use as current interrupters.

FEATURES

Silver-to-silver line-pressure contacts.
Blades and other current-carrying parts of 98 per cent conductivity copper.
Satin finish and lacquered.
Fully insulated handles.

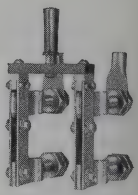


Fig. 1. 400-amp, 250-volt d-c, 500-volt a-c, double-pole, single-throw, LP-101 knife switch

Rating			Throw	SINGLE-POLE			DOUBLE-POLE			TRIPLE-POLE			FOUR-POLE		
Volts		Amp		Cat. No.	Net Price *	Net Wt in Lb	Cat. No.	Net Price *	Net Wt in Lb	Cat. No.	Net Price *	Net Wt in Lb	Cat. No.	Net Price *	Net Wt in Lb
D-c	A-c	A-c or D-c													
400-1200 Amp, inclusive, Without Fuse Clips															
250	500	400	Single	6129955G17	**$15.00**	7	6129955G18	**$28.00**	14	6129955G19	**$41.00**	20	6129955G20	**$57.00**	27
		600		6129955G33	**23.00**	12	6129955G34	**41.00**	23	6129955G35	**61.00**	32	6129955G36	**85.00**	45
		800		6129955G49	**34.00**	16	6129955G50	**63.00**	32	6129955G51	**83.00**	46	6129955G52	**127.00**	60
		1200		6129955G65	**48.00**	23	6129955G66	**90.00**	45	6129955G67	**134.00**	67	6129955G68	**182.00**	89
250	500	400	Double	6129955G21	**23.00**	9	6129955G22	**41.00**	18	6129955G23	**61.00**	27	6129955G24	**82.00**	36
		600		6129955G37	**33.00**	15	6129955G38	**61.00**	30	6129955G39	**90.00**	43	6129955G40	**121.00**	57
		800		6129955G53	**48.00**	22	6129955G54	**91.00**	43	6129955G55	**135.00**	69	6129955G56	**185.00**	90
		1200		6129955G69	**70.00**	37	6129955G70	**127.00**	73	6129955G71	**194.00**	109	6129955G72	**265.00**	144
600	600	400	Single	6129955G25	**18.00**	9	6129955G26	**31.00**	15	6129955G27	**48.00**	22	6129955G28	**66.00**	30
		600		6129955G41	**27.00**	10	6129955G42	**48.00**	25	6129955G43	**73.00**	35	6129955G44	**98.00**	48
		800		6129955G57	**40.00**	13	6129955G58	**73.00**	35	6129955G59	**108.00**	48	6129955G60	**142.00**	64
		1200		6129955G73	**66.00**	18	6129955G74	**103.00**	48	6129955G75	**152.00**	70	6129955G76	**212.00**	92
600	600	400	Double	6129955G29	**25.00**	7	6129955G30	**46.00**	20	6129955G31	**70.00**	30	6129955G32	**96.00**	39
		600		6129955G45	**39.00**	12	6129955G46	**64.00**	34	6129955G47	**104.00**	46	6129955G48	**127.00**	60
		800		6129955G61	**56.00**	17	6129955G62	**102.00**	46	6129955G63	**150.00**	72	6129955G64	**206.00**	94
		1200		6129955G77	**82.00**	26	6129955G78	**145.00**	78	6129955G79	**202.00**	112	6129955G80	**300.00**	148
400-600 Amp, Inclusive, with Silver-area Clips for N.E.C. Fuses on Hinge End ‡															
250	250	400	Single	6129956G10	**$24.00**	7	6129956G11	**$45.00**	18	6129956G12	**$66.00**	29	6129956G13	**$92.00**	40
		600		6129956G19	**36.00**	12	6129956G20	**66.00**	32	6129956G21	**99.00**	43	6129956G22	**134.00**	56
250	500	400	Single	6129956G15	**29.00**	8	6129956G16	**53.00**	18	6129956G17	**80.00**	29	6129956G18	**109.00**	40
		600		6129956G24	**44.00**	14	6129956G25	**80.00**	32	6129956G26	**119.00**	43	6129956G27	**161.00**	56
Silvered Fuse Clips Only ‡§															
250	250	400		6173327G7	**$15.00**	4									
		600		6173327G8	**21.00**	8									

* Prices include three nuts per stud. For rati .gs 800 amp or less—single-throw, one terminal per pole; double-throw, two terminals per pole.
‡ NECS fuses not included. If required, order NECS fuses separately.
§ The Cat. No. listed covers a set of two clips and studs, and a total of six nuts and one terminal. Area-silver contacts on all ampere ratings.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE LP-101 KNIFE SWITCHES

HANDLES—SWITCHES 400 TO 1200 AMP INCLUSIVE

Straight

All single-pole switches.
All double-pole switches.
Triple-pole 400-600 amp.

Spade

Triple-pole 800-1200 amp.
All four-pole switches.

With Silver-Line Contacts and Laminated Studs*

1600 TO 6000 AMP, 250 VOLTS D-C (500 VOLTS A-C)—600 VOLTS, A-C OR D-C

Rating				Throw	SINGLE-POLE Straight Handles			DOUBLE-POLE Spade Handles			TRIPLE-POLE Spade Handles			FOUR-POLE Spade Handles		
Volts		Amp			Cat. No.	Net Price	Net Wt in Lb	Cat. No.	Net Price	Net Wt in Lb	Cat. No.	Net Price	Net Wt in Lb	Cat. No.	Net Price	Net Wt in Lb
D-c	A-c	D-c	A-c													
250	500	1600	1600	Single	6052371G1	**$99.00**	31	6052371G2	**$181.00**	63	6052371G3	**$272.00**	95	6052371G4	**$372.00**	127
		2500	2000		6052373G1	**113.00**	43	6052373G2	**228.00**	88	6052373G3	**339.00**	133	6052373G4	**465.00**	177
		4000	3000		6052375G1	**173.00**	62	6052375G2	**314.00**	124	6052375G3	**472.00**	187	6052375G4	**644.00**	249
		6000	4000		6052377G1	**240.00**	117	.....	.....	...	.....	.....	...	.....	.....	...
		8000	5000		6159257G1	**322.00**	130	.....	.....	...	.....	.....	...	.....	.....	...
		10000	6000		6052379G1	**400.00**	168	.....	.....	...	.....	.....	...	.....	.....	...
		1600	1600	Double	6052371G5	**144.00**	42	6052372G6	**264.00**	85	6052371G7	**395.00**	129	6052371G8	**538.00**	173
		2500	2000		6052373G5	**190.00**	58	6052373G6	**330.00**	117	6052373G7	**494.00**	178	6052373G8	**664.00**	237
		4000	3000		6052375G5	**252.00**	83	6052375G6	**450.00**	167	6052375G7	**685.00**	251	6052375G8	**935.00**	334
		6000	4000		6052377G2	**350.00**	160	.....	.....	...	.....	.....	...	.....	.....	...
		8000	5000		6159257G2	**470.00**	180	.....	.....	...	.....	.....	...	.....	.....	...
		10000	6000		6052379G2	**585.00**	235	.....	.....	...	.....	.....	...	.....	.....	...
600	600	1600	1600	Single	6052372G1	**105.00**	32	6052372G2	**208.00**	66	6052372G3	**312.00**	99	6052372G4	**427.00**	133
		2500	2000		6052374G1	**144.00**	45	6052374G2	**262.00**	91	6052374G3	**391.00**	138	6052374G4	**535.00**	184
		4000	3000		6052376G1	**198.00**	65	6052376G2	**362.00**	130	6052376G3	**542.00**	196	6052376G4	**732.00**	262
		6000	4000		6052378G1	**278.00**	122	.....	.....	...	.....	.....	...	.....	.....	...
		8000	5000		6159258G1	**372.00**	150	.....	.....	...	.....	.....	...	.....	.....	...
		10000	6000		6052380G1	**463.00**	170	.....	.....	...	.....	.....	...	.....	.....	...
		1600	1600	Double	6052372G5	**165.00**	43	6052372G6	**304.00**	88	6052372G7	**455.00**	133	6052372G8	**624.00**	170
		2500	2000		6052374G5	**206.00**	60	6052374G6	**382.00**	121	6052374G7	**569.00**	183	6052374G8	**776.00**	245
		4000	3000		6052376G5	**241.00**	86	6052376G6	**525.00**	173	6052376G7	**785.00**	260	6052376G8	**1074.00**	347
		6000	4000		6052378G2	**405.00**	165	.....	.....	...	.....	.....	...	.....	.....	...
		8000	5000		6159258G2	**542.00**	200	.....	.....	...	.....	.....	...	.....	.....	...
		10000	6000		6052380G2	**685.00**	237	.....	.....	...	.....	.....	...	.....	.....	...

* Listed switches include laminated studs with vertical slots. Horizontal slots, or horizontal on one stud and vertical on the other, will be furnished f desired, at no change in price.

WITH EYE HANDLES

BACK-CONNECTED—TRIPLE-POLE, SINGLE-THROW—MOUNTED ON EBONY-ASBESTOS BASE‡

600 VOLTS

A-c Amp	Cat. No.	Net Price	Net Wt in Lb
400	6159339G2	**$87.00**	20
600	6159339G3	**111.00**	32
800	6159339G4	**149.00**	45
1200	6159339G5	**193.00**	65

‡ Specify size of base desired, from the following standard sizes:
400, 600, 800 amp—18 by 22, 18 by 24, 18 by 28.
1200 amp—20 by 24, 20 by 28, 20 by 32.

Base may be omitted at **$21.00 net**, for any rating.

ORDERING DIRECTIONS

Specify Catalog Number, and Give Full Description, Specifying:

1. Poles, throws, ampere and voltage ratings, and whether with, or without, fuse clips.
2. Whether vertical or horizontal laminations are wanted.

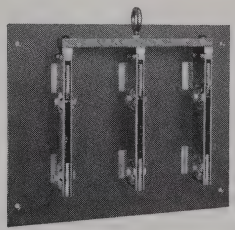


Fig. 2. Type LP-101 knife switch with eye handle

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE LP-101 KNIFE SWITCHES

DIMENSIONS—BACK-CONNECTED—ROUND STUDS

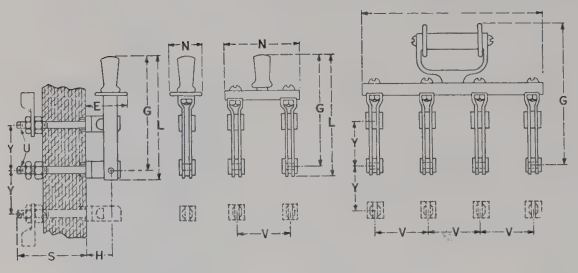


Fig. 3. Without fuses, single- and double-throw

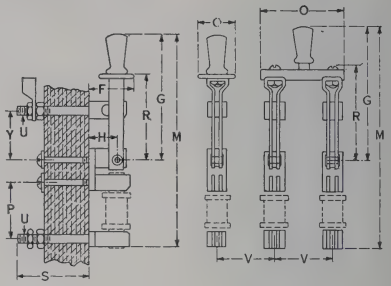


Fig. 4. With fuses, single-throw only

Dimensions in Inches *

Ampere Rating A-c, D-c	E	F (Fig. 4)		G	H	L	M (Fig. 4)		N	O (Fig. 4)		P (Fig. 4)		S	U	V	Y
	Fig.	250-volt	500-volt	Fig. 3, 4	Fig. 3, 4	Fig. 3	250-volt	500-volt	Fig. 3	250-volt	500-volt	250-volt	500-volt	Fig. 3, 4	Threads Fig. 3, 4	Fig. 3, 4	Fig. 3, 4
Fig. 3—Switches without Fuse Connections, 250 Volts D-c, 500 Volts A-c																	
Fig. 4—Switches with Fuse Connections, with 250- and with 600-volt Fuses																	
Single-pole—Straight Handle, All Switches																	
400	3 9/16	3 21/64	3 29/64	10	2 7/16	10 3/4	20	23	2 1/4	2 7/16	2 13/16	6 3/4	9 3/4	4 15/64	3/4–12	.....	4 3/8
600	4 9/64	4 3/8	4 21/64	11	2 29/64	12	23 1/16	26	2 3/4	2 13/16	3 1/2	8 1/8	11 1/16	4 5/8	1 –12	.....	4 3/4
800	4 15/16	....	....	12 1/2	3 9/16	13 3/4	....	....	2 3/4	....	....	....	....	4 5/8	1 1/8–12	.....	5 3/8
1200	5 5/8	....	....	14 1/8	3 5/8	15 5/8	....	....	4	....	....	....	....	4 21/64	1 1/4–12	.....	6 3/4
Two-pole—Straight Handle, All Switches																	
400	3 9/16	3 21/64	3 29/64	10 3/8	2 7/16	11 1/8	20 3/8	23 3/8	5 5/8	6 13/16	7 5/16	6 3/4	9 3/4	4 15/64	3/4–12	6 1/4	4 3/8
600	4 9/64	4 3/8	4 21/64	12	2 29/64	13	24 1/16	27	6 3/4	7 13/16	8 3/8	8 1/8	11 1/16	4 5/8	1 –12	6 1/2	4 3/4
800	4 15/16	....	....	13	3 9/16	14 1/4	....	....	6 3/4	....	....	....	....	4 5/8	1 1/8–12	6 3/4	5 3/8
1200	5 5/8	....	....	14 5/8	3 5/8	16 1/2	....	....	6 7/8	....	....	....	....	4 21/64	1 1/4–12	7	6 3/4
Three-pole—Straight Handle, 400-600 Amp; Spade Handle, 800-1200 Amp, Switches																	
400	3 9/16	3 21/64	3 29/64	10 3/8	2 7/16	11 1/8	20 3/8	23 3/8	10	11 5/16	11 11/16	6 3/4	9 3/4	4 15/64	3/4–12	6 1/4	4 5/8
600	4 9/64	4 3/8	4 21/64	12	2 29/64	13	24 1/16	27	11 1/8	12 11/16	13 1/4	8 1/8	11 1/16	4 5/8	1 –12	6 1/2	4 3/4
800	4 5/16	....	....	13 1/2	3 9/16	14 3/4	....	....	12 1/8	....	....	....	....	4 5/8	1 1/8–12	6 3/4	5 3/8
1200	5 5/8	....	....	15 1/8	3 5/8	16 5/8	....	....	12 1/8	....	....	....	....	4 21/64	1 1/4–12	7	6 3/4
Four-pole—Spade Handle, All Switches																	
400	3 9/16	3 21/64	3 29/64	11 3/4	2 7/16	12 1/2	21 3/4	24 1/16	14 3/8	15 9/16	16 1/16	6 3/4	9 3/4	4 15/64	3/4–12	6 1/4	4 3/8
600	4 9/16	4 3/8	4 21/64	12 11/16	2 29/64	13 13/16	24 13/16	27 13/16	16	17 9/16	18 1/2	8 1/8	11 1/16	4 5/8	1 –12	6 1/2	4 3/4
800	4 15/16	....	....	13 1/2	3 9/16	14 3/4	....	....	17 1/2	....	....	....	....	4 5/8	1 1/8–12	6 3/4	5 3/8
1200	5 5/8	....	....	15 1/8	3 5/8	16 5/8	....	....	17 3/4	....	....	....	....	4 21/64	1 1/4–12	7	6 3/4
Fig. 3 Only—Switches without Fuse Connections, 600-volt, A-c and D-c																	
Single-pole—Straight Handle, All Switches																	
400	3 9/16	....	....	12 1/8	2 7/16	12 7/8	....	....	2 1/4	....	....	....	....	4 15/64	3/4–12	.....	6 1/2
600	4 9/64	....	....	13 3/8	2 29/64	14 3/8	....	....	2 3/4	....	....	....	....	4 5/8	1 –12	.....	7 1/8
800	4 21/64	....	....	14 3/4	3 9/16	16	....	....	2 3/4	....	....	....	....	4 5/8	1 1/8–12	.....	7 5/8
1200	5 5/8	....	....	18 3/8	3 5/8	17 7/8	....	....	4	....	....	....	....	4 21/64	1 1/4–12	.....	9
Two-pole—Straight Handle, All Switches																	
400	3 9/16	....	....	12 1/2	2 7/16	13 1/4	....	....	7 1/2	....	....	....	....	4 15/64	3/4–12	6 1/4	6 1/2
600	4 9/64	....	....	14 3/8	2 29/64	15 3/8	....	....	7 3/8	....	....	....	....	4 5/8	1 –12	6 1/2	8 1/8
800	4 21/64	....	....	15 1/4	3 9/16	16 1/2	....	....	8 1/4	....	....	....	....	4 5/8	1 1/8–12	6 3/4	7 5/8
1200	5 5/8	....	....	16 7/8	3 5/8	18 3/8	....	....	8 5/8	....	....	....	....	4 21/64	1 1/4–12	7	9
Three-pole—Straight Handle, 400-600 Amp; Spade Handle 800-1200 Amp, Switches																	
400	3 9/16	....	....	12 1/2	2 7/16	13 1/4	....	....	13 3/4	....	....	....	....	4 15/64	3/4–12	6 1/4	6 1/2
600	4 9/64	....	....	14 3/8	2 29/64	15 3/8	....	....	14 3/8	....	....	....	....	4 5/8	1 –12	6 1/2	7 1/8
800	4 21/64	....	....	15 3/4	3 9/16	17	....	....	14 7/8	....	....	....	....	4 5/8	1 1/8–12	6 3/4	7 5/8
1200	5 5/8	....	....	17 3/8	3 5/8	18 7/8	....	....	15 3/8	....	....	....	....	4 21/64	1 1/4–12	7	9
Four-pole—Spade Handle, All Switches																	
400	3 9/16	....	....	13 7/8	2 7/16	14 5/8	....	....	20	....	....	....	....	4 15/64	3/4–12	6 1/4	6 1/2
600	4 9/64	....	....	15 5/16	2 29/64	16 3/16	....	....	20 7/8	....	....	....	....	4 5/8	1 –12	6 1/2	7 1/8
800	4 21/64	....	....	15 3/4	3 9/16	17	....	....	21 5/8	....	....	....	....	4 5/8	1 1/8–12	6 3/4	7 5/8
1200	5 5/8	....	....	17 3/8	3 5/8	18 7/8	....	....	22 5/8	....	....	....	....	4 21/64	1 1/4–12	7	9

* Dimensions are subject to change without notice and should not be used for construction without approval.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE LP-101 KNIFE SWITCHES

DIMENSIONS—BACK-CONNECTED—LAMINATED STUDS*†

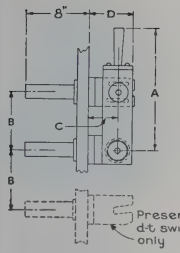


Fig. 5

Fig. 6

Fig. 7

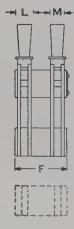


Fig. 8

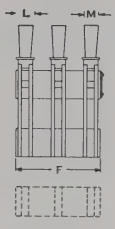


Fig. 9

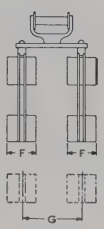


Fig. 10

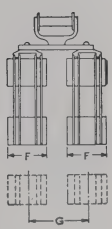


Fig. 11

Amp		Fig. No.	Dimensions in Inches *								
			A				B	C	D	F	G
D-c	A-c		S.P.	D.P.	T.P.	4P					
250 Volts D-c or 500 Volts A-c											
1600	1600	5, 6, 10	13 3/16	14 9/16	14 3/8	14 3/8	5 3/4	4	5 7/8	3 1/2	5 3/4
2500	2000	5, 7, 11	12 3/4	14 1/8	13 15/16	13 15/16	5 3/4	4	5 5/8	4	6 1/2
4000	3000	5, 7, 11	14 1/8	15 3/4	15 9/16	15 9/16	6 3/4	4 1/4	6 3/8	5	6 1/2
6000	4000	5, 8	14 5/16	.....	.....	.....	6 3/4	5 1/8	7 3/4	6 3/4	.....
8000	5000	5, 9	15 1/16	.....	.....	.....	7 1/2	5 1/8	7 3/4	10 3/4	.....
10000	6000	5, 9	15 1/16	.....	.....	.....	7 1/2	5 1/8	7 3/4	10 3/4	.....
600 Volts, A-c or D-c											
1600	1600	7, 8, 12	15 1/16	16 7/16	16 1/2	16 1/4	7 1/8	4	5 7/8	3 1/2	9 7/8
2500	2000	7, 9, 13	14 5/8	16	15 13/16	15 13/16	7 5/8	4	5 5/8	4	10 3/4
4000	3000	7, 9, 13	16 5/8	18	17 13/16	17 13/16	9	4 1/4	6 3/8	4	10
6000	4000	5, 8	16 3/16	.....	.....	.....	9	5 1/8	7 3/4	6 3/4	.....
8000	5000	5, 9	16 1/16	.....	.....	.....	8 1/2	5 1/8	7 3/4	10 3/4	.....
10000	6000	5, 9	16 1/16	.....	.....	.....	8 1/2	5 1/8	7 3/4	10 3/4	.....

* Dimensions apply whether stud laminations are horizontal or vertical.
† Dimensions are subject to change without notice.

DIMENSIONS OF LAMINATED STUDS*

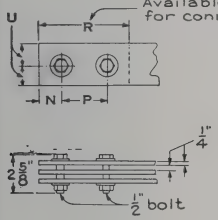


Fig. 12

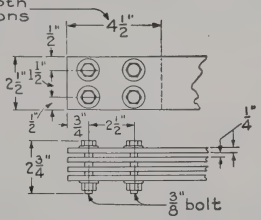


Fig. 13. 4000 amp D-c or 3000 amp A-c

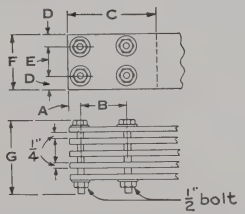


Fig. 14. 4000, 5000, 6000 amp

Dimensions in Inches

Horizontal or Vertical Laminations								Horizontal or Vertical Laminations									
Fig.	Amp.		No. of Laminations	N	P	R	U	Fig.	Amp		No. of Laminations	A	B	C	D	E	F	G
	D-c	A-c							D-c	A-c								
12	1600	1600	3	5/8	1 3/4	3 1/2	7/8	14	6000	4000	5	7/8	1 3/4	4 1/2	7/8	1 3/4	3 1/2	3 7/8
12	2500	2000		3/4	2 1/2	4 1/2	1 1/8	14	8000	5000	2 groups of 3—Total 6	7/8	1 3/4	4 1/2	7/8	1 3/4	3 1/2	2 1/2
								14	10000	6000	2 groups of 4—Total 8	7/8	1 3/4	4 1/2	7/8	1 3/4	3 1/2	3

* Dimensions are subject to change and should not be used for construction without approval.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE PK-2 TEST BLOCKS AND PLUGS

APPLICATION

For mounting on switchboard panels for use in conjunction with proper test equipment to facilitate the testing of a-c instruments, meters, and relays.

FEATURES

Type PK-2 test blocks are essentially 4-pole and 6-pole jacks, provided with molded Textolite covers that have internal plug contacts, which make a through connection when the cover is in place. The contacts in the blocks are of the line-pressure type and provide positive contact with minimum contact resistance. For all current circuits auxiliary contacts are used which automatically short-circuit the current transformer when the cover, or plug, is removed.

The test plugs, provided with studs and links, can be permanently connected to the testing equipment for any of the various test methods in use.

Routine testing can be accomplished simply by removing the cover and substituting the properly connected test plug; normal connections are restored by replacing the cover.

Contact rating is 250 volts, 10 amperes continuously.

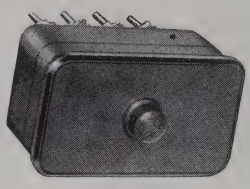


Fig. 1. 4-pole block with cover

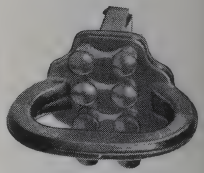


Fig. 2. 4-pole test plug

EXPLANATION OF LISTING

The Cat. No. for each form of block includes the PK-2 block and cover, with a set of **unmounted** auxiliary contacts, jumpers, and screws in sufficient variety and quantity to provide the combinations to suit any application desired, typical arrangements of which are shown in Fig. 10 to 15 inclusive. The Cat. No. and price include mounting screws, nuts for the studs, and (for blocks for mounting on ⅛-½-inch panels) bushings for the studs.

Type PK-2 Test Blocks with Covers

FOUR-POLE (0 0 0 0 / 0 0 0 0)				SIX-POLE (0 0 0 0 0 0 / 0 0 0 0 0 0)			
Cat. No. *		Net Price *		Cat. No. *		Net Price *	
Surface Mounting on 1-, 1½-, 2-in. Panels (Fig. 3 and 5)	Semiflush Mounting on ⅛-in. Panels or Surface Mounting on ⅛- to ½-in. Panels (Fig. 3 and 6 or 7)	Each	Net Wt in Lb	Surface Mounting on 1-, 1½-, 2-in. Panels (Fig. 4 and 5)	Semiflush Mounting on ⅛-in. Panels or Surface Mounting on ⅛- to ½-in. Panels (Fig. 4 and 6 or 7)	Each	Net Wt in Lb
6422120G1	6422120G3	**$7.00**	2	6422120G2	6422120G4	**$9.00**	3

* Auxiliary contacts, jumpers, screws, mounting screws, and bushings, as required, included in Cat. No. and price.

Test Plugs (Fig. 2 and 8)

FOUR-POLE			SIX-POLE		
Cat. No.	Net Price	Net Wt in Lb	Cat. No.	Net Price	Net Wt in Lb
6129533G1	**$4.00**	1¼	6129533G2	**$5.00**	1¾

DIMENSIONS

Dimensions are subject to change and should not be used for construction without approval.

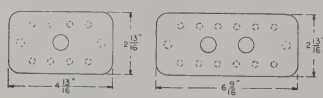


Fig. 3. 4 Pole

Fig. 4. 6 Pole

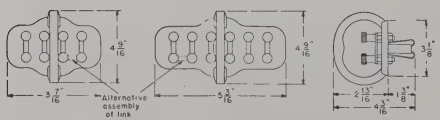


Fig. 8. 4- and 6-pole studs

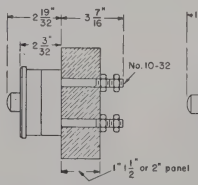


Fig. 5. 4- or 6-pole surface mounted on 1- to 2-in. panel

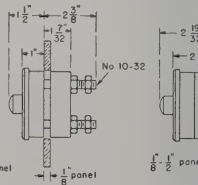


Fig. 6. Semiflush mounted on ⅛-in. panel

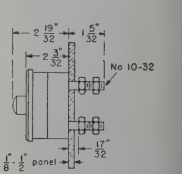


Fig. 7. Surface mounted on ⅛- to ½-in. panel

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE PK-2 TEST BLOCKS AND PLUGS

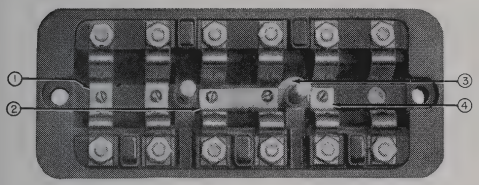


Fig. 9. 6-pole block with jumpers and connectors

Fig. 9 shows a composite assembly of a 6-pole PK-2 test block with auxiliary contacts and jumpers, as follows:

No. 1—Auxiliary contact (Cat. No. 6179685G3) used as a bridge to maintain the circuit during the period that the cover or the plug is not in place. Without this connection, loss of revenue is possible because of interrupted operation if the replacement of the cover, or plug, is long delayed.

No. 2—Auxiliary contact (Cat. No. 6179685G2) to short circuit the current transformer when the cover or plug is not in place.

No. 3—Jumper (Cat. No. 6179685G4) to be used in connection with auxiliary contact No. 2 or No. 4, to serve the same purpose as No. 2 in short circuiting a current transformer, or to interconnect phases, when the cover-fastening stud is to be by-passed.

No. 4—Auxiliary contact (Cat. No. 6179685G1) equal to one pole of contact No. 2, to be used in connection with jumper No. 3 as shown in Fig. 9. If all poles are to be interconnected, as indicated in Fig. 15, contact bars No. 2 with jumpers No. 3 would be used.

TYPICAL ARRANGEMENTS OF TYPE PK-2 TEST BLOCKS WITH AUXILIARY CONTACTS AND JUMPERS

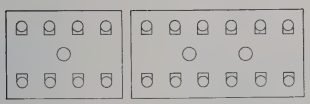


Fig. 10. Without auxiliary contacts, for potential circuits

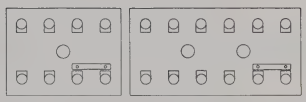


Fig. 11. With one auxiliary contact No. 2, for potential and current circuit

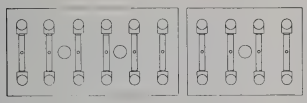


Fig. 12. With auxiliary contacts No. 1, for through-current connections

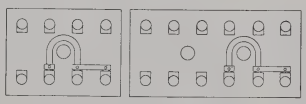


Fig. 13. With auxiliary contacts No. 2 and 4, and jumper No. 3, for relay and trip connections

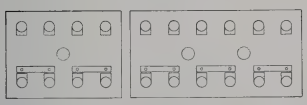


Fig. 14. With auxiliary contacts No. 2, for current circuits

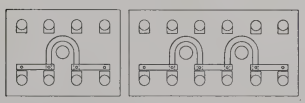


Fig. 15. With auxiliary contacts No. 2 and jumpers No. 3, for current transformer short circuiting

Note: With each PK-2 test block there is supplied a sufficient quantity of auxiliary contacts and jumpers for any connection shown here.

INTERCHANGEABILITY WITH TYPE PK-1

PK-2 blocks can be surface-mounted on insulating panels in the PK-1 drilling, or surface-mounted on steel panels in the PK-1 drilling plus two small holes for mounting screw bolts. PK-2 plugs, four- and six-pole, are interchangeable with PK-1 plugs. However, the base of the PK-2 is one inch longer than that of the PK-1, therefore it may not always be possible to mount the PK-2 blocks in the same location as the PK-1.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE ET-5 INDICATING LAMPS

APPLICATION

The Type ET-5 indicating lamp is for application where good visible indication, long lamp life, and low-wattage consumption are desired. It can be used for signal-light indication, or, in combination with control switches, to tell whether a circuit breaker is open, closed, or tripped automatically.

FEATURES

The unit is compact and simple in construction, and requires only one hole for mounting on panel. In addition, it has the following advantages:

Its low-wattage consumption results in economy, as well as cool operation.

Most of the heat is confined to the back of the panel, where radiation is good.

Its long life gives economy in lamp renewals.

Its color caps are treated to increase the glow of the lamp—thus, better visibility.

Its interchangeable color-caps afford a variety of different light indications.

Its series resistor prevents the possibility of a short circuit from a broken filament in the lamp.

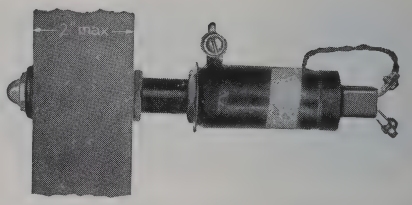


Fig. 1. Lamp receptacle mounted on ebony asbestos panel

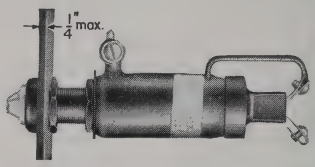


Fig. 2. Lamp receptacle mounted on steel panel

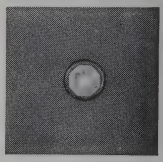


Fig. 3. Front escutcheon and color cap

Circuit Voltage			Cat. No. (Includes Lamp (Cat. No. 59X243), Color Cap, and Resistor)		Net Price, Quantity of
Rated	Min.	Max.	Maximum ¼-in. Panel	Maximum 2-in. Panel	
Receptacle Complete Where Lamp Is Operated At One Brilliancy					
24 D-c	22	28	6105700G1	6105700G19	**$14.60**
48 D-c	44	56	6105700G2	6105700G20	**14.60**
115 A-c	95	125	6105700G9	6105700G27	**14.60**
125 D-c	110	140	6105700G3	6105700G21	**14.60**
220 A-c	190	250	6105700G10	6105700G28	**14.60**
250 D-c	220	280	6105700G4	6106700G22	**14.60**
440 A-c	380	500	6105700G11	6105700G29	**20.00**
550 A-c	485	630	6105700G12	6105700G30	**20.00**
600 D-c	580	750	6105700G5	6105700G23	**20.00**
Receptacle and Resistor (Middle Tap) Connection Giving Dim-bright Operation					
48 D-c	44	56	6105700G6	6105700G24	**$20.00**
125 D-c	110	140	6105700G7	6105700G25	**20.00**
250 D-c	220	280	6105700G8	6105700G26	**20.00**

ORDERING DIRECTIONS

(1) Specify quantity and proper Catalog Number for circuit voltage and panel thickness.

(2) Specify color of cap desired (colors available: clear, red, green, yellow, white, blue).

(3) For spare resistors, lamps, color caps, and combination color-cap wrench and lamp-puller (Cat. No. 6151027G1), select correct catalog number from Renewal-parts Bulletin GEG-5249 and refer to your distributor for price.

G-E CONTROL SWITCHBOARD COMPONENTS

TYPE ET-5 INDICATING LAMPS

DESCRIPTION

The ET-5 indicating-lamp combination is simple and sturdy in construction and requires little space for mounting.

The device includes the G-E telephone lamp, T2 bulb, No. 902 slide base with raised prick punches, Cat. No. 59X243, 24 volts, 0.032-0.038 ampere. Screw-type compound color caps easily removed and replaced are used in the escutcheon over the lamp and

DIMENSIONS

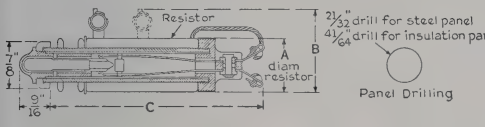


Fig. 4

Fig. 5 Panel drilling

give positive indication. Six colors, clear, red, green, white, blue, and yellow, are available. Color of cap desired should be specified when ordering complete device. Spare caps for renewals should be ordered separately by designated catalog numbers. (See Renewal-parts Bulletin GEG-5249.)

The resistor element slides over the receptacle body from the rear and the complete device has provision for soldered connections.

Binding screws are included for use where soldered connections are not desired.

Volts	Dimensions in Inches (Fig. 4) A	B	C	Panel Thickness
24-250	1 1/8	1 11/16	4 3/16	Up to 1/4 in. thick
251-660	2	2 9/16		
24-250	1 1/8	1 11/16	5 15/16	Up to 2-in. thick
251-660	2	2 9/16		

Dimensions are subject to change and should not be used for construction without approval.

To replace Type ET-4 and ET-6 combinations with the Type ET-5 combined resistor receptacles on panels already drilled, the following material is required (No adapter material is required when Type ET-2 lamps are replaced by Type ET-5):

ADAPTER MATERIAL

Panel Thickness in Inches	Diameter of Hole in Inches	Cat. No. of Adapting Material	Net Price Per Carton of 4 sets when sold with indicating lamps
1/8 to 2	1	6071585G5	$1.00
1/8 to 2	1 1/4 or 1 3/8	6071585G6	

FABRICATED TERMINAL BOARDS AND COVERS

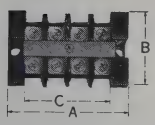


Fig. 1. 4-pole board without short-circuit strips, Cat. No. 6422482G4

Fig. 2. 4-pole board with 4 short-circuit strips, Cat. No. 6353652G1

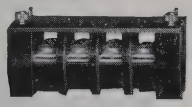


Fig. 3. 4-pole terminal block, with hinged cover in place, Cat. No. 6422494G104

APPLICATION

Where leads are brought to any part for permanent or temporary connection, especially if many wires are involved.

DESCRIPTION

Type EB-5 are fabricated terminal boards. Each is equipped with the necessary washer head binding screws for circuit wire connections, and also a white marking strip for circuit identification. To mount, drill for No. 10 screw. Board will accommodate wires size No. 18 to No. 10 inclusive.

Type EB-6 are fabricated terminal boards of the same construction and dimensions as the Type EB-5, except that clamp-type connectors are furnished for circuit wire connections. Boards will accommodate wires size No. 18 to No. 10 inclusive.

Where more than 12 poles are required for a particular application, combinations of the standard boards are used.

30 AMPERES—600 VOLTS

No. of Poles Per Board	Without Short-circuit Strips: Board Only, Without Cover Fig. 1 — Catalog No.	Net Price, Carton of 12	Board With Cover Fig. 3 — Catalog No.	Net Price, Carton of 12	With Short-circuit Strips*: Board Only, Without Cover Fig. 2 — Catalog No.	Net Price, Carton of 12	Approx Ship. Wt. in Lb Each	Dimensions in Inches Fig. 1, 2, or 3 A	B	C
Type EB-5, With Washer-Head Screws for Connection (as in Fig. 1 and 2)										
4	6422482G4ϕ	$13.20	6422494G4	$23.30	6353652G1	$17.40	3/4	3 1/4	2	2 7/8
6	6ϕ	16.20	6	27.60	2	22.80	1	4 1/2	2	4 1/8
8	8ϕ	23.50	8	34.20	3	33.00	1	5 3/4	2	5 3/8
12	12ϕ	31.20	12	43.80	4	40.80	1 1/2	8 1/4	2	7 7/8
Type EB-6, With Pressure-Type Connectors (as in Fig. 3)										
4	6422482G104ϕ	$16.20	6422494G104	$27.60	.....	.....	1	3 1/4	2	2 5/8
6	106ϕ	17.40	106	28.80	.....	.....	1 1/2	4 1/2	2	4 1/8
8	108ϕ	28.80	108	40.80	.....	.....	2	8 1/4	2	5 3/8
12	112ϕ	39.00	112	51.00	.....	.....	2	8 1/4	2	7 7/8

*Each board is furnished with a total of 4 short-circuit strips to provide for a total of 3 current transformer secondary circuits connected Y with grounded neutral. The short-circuit strips can be easily removed or added as required.

G-E CONTROL SWITCHBOARD COMPONENTS

MOLDED TERMINAL BOARDS AND COVERS

TYPE EB-4

Where a large amount of small wiring is necessary on the back of switchboard, the terminal boards listed below will be found very convenient for attaching the wires, not to exceed No. 8 in size. Molded-composition terminal boards make possible neat, compact arrangements on the back of the switchboard. Each stud is furnished with 4 pronged washers (Cat. No. 6073952P1).

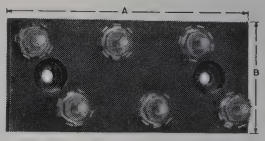


Fig. 4. 6-point terminal board, Type EB-4, Cat. No. 2860351G3

600 VOLTS

No. of Studs ‡	Cat. No.	NET PRICE per Std Pkg of 12	Approx. Ship. Wt Each in Lb	Dimensions in Inches (Fig. 4)	
				A	B
2	2860351G1	**$16.20**	¼	1¼	
4	2860351G2	**17.40**	½	2½	1¾
6	2860351G3	**21.00**	¾	3¾	

‡ Boards for more than six circuits to be made up of combinations of 2-, 4-, and 6-stud boards.

ORDERING DIRECTIONS—ORDER BY CAT. NO.

Do not order less than carton quantity. For more than carton quantities, prorate on basis of carton price.

G-E SWITCHGEAR RELAYS

TYPES HGA AND HMA AUXILIARY RELAYS

APPLICATION

These auxiliary relays are available for numerous applications for use on a-c and d-c circuits. They may be applied where several circuits are to be closed or opened as a result of closing one set of contacts in a protective or actuating relay. Where more than two circuits are to be controlled, the coils of two or more relays may be connected either in series or parallel to obtain the desired results.

FEATURES

Contacts, silver-to-silver, double-pole, double-throw (two normally open, two normally closed). Textolite base of high insulating qualities, molded in one piece, impervious to moisture. Cover, also of black Textolite, held in place by two spring clips, easily removed and replaced.

Instantaneous in operation, positive in action, and attractive in appearance. Back-connected relays with covers or front-connected relays without covers can be provided. The front-connected relays are generally used in enclosures where the back of panel is inaccessible.

Fig. 1. HGA11A back-connected auxiliary relay

G-E SWITCHGEAR RELAYS

AUXILIARY RELAYS

Coil Ratings			Resistance, Ohms at 25C †	Back-connected, with Cover and Studs			Front-connected, No Cover or Studs		
Volts, D-c	Amp, D-c	Volts, A-c 60 Cycles*		Model No. ‡	Net Price ‡	Approx Wt in Lb	Model No. ‡	Net Price ‡	Approx Wt in Lb
Type HGA—Heavier Duty—Larger									
6	.....	.....	9	12HGA11A58			12HGA11H58		
12	.....	.....	35	57			57		
24	.....	.....	130	56			56		
32	.....	.....	205	55			55		
48	.....	.....	500	54			54		
62.5	.....	.....	820	53			53		
125	.....	.....	3250	52			52		
250	.....	.....	12900	51	**$12.00**	Net—2	51	**$11.00**	Net—2
.....	1	.....	4.40	65		Ship.—3	65		Ship.—3
.....	2	.....	1.10	66			66		
.....	3	.....	0.46	67			67		
.....	5	.....	0.16	69			69		
.....	.....	115	93	70			70		
.....	.....	208	340	105			105		
.....	.....	230	380	71			71		
.....	.....	460	1900	72			72		
Type HMA—Lighter Duty—Smaller									
6	.....	.....	8.8	12HMA11A21			12HMA11B1		
12	.....	.....	35	22			2		
24	.....	.....	140	23			3		
32	.....	.....	250	24		Net—⅞	4		Net—½
48	.....	.....	560	25	**$9.00**		5	**$7.75**	
125	.....	.....	4000	26		Ship.—1¼	6		Ship.—¾
.....	.....	115	.....	31			11		
.....	.....	230	.....	32			12		

* For 25- or 50-cycle relays use same price as listed for corresponding 60-cycle relay. See "Ordering Directions."
‡ To obtain glass in cover of HGA relay add suffix letter "G" to Model No. and add **$0.60** to selling price. Example: Model 12HGA11A58G, selling price **$12.60** (This feature not available in HMA relays.)
† Within plus or minus 10%.

ORDERING DIRECTIONS

Order d-c and 60-cycle a-c relays by Model No. For 25- or 50-cycle relays, order "Similar to Model No. .....(give 60-cycle No.) except for 25- (or 50-) cycles."

If relays are to be mounted on a steel panel, specify "with short studs" and order, as a separate item, insulating bushing 6079588P5 for each live stud. (These bushings are furnished without charge when ordered with the relay).

Unles otherwise specified, back-connected relays with long studs will be furnished.

OPERATION AND CHARACTERISTICS

Operation

These relays have an operating coil and an opening spring. When the coil is energized, the hinged armature is attracted, closing the normally open contacts and opening the normally closed contacts.

Characteristics

Both the a-c and d-c relays are normally adjusted to pick up at 80 per cent of rating (hot). This is approximately 60 per cent of rating for d-c relays (cold), because the coil resistance changes with heating. The a-c relays will drop out at approximately 40 to 50 per cent of normal voltage; the d-c at 2 to 10 per cent.

These relays will withstand a 10 per cent increase in voltage without injury to the operating coils.

Ratings of Contacts

The current-closing rating of the contacts is 30 amperes. The current-carrying rating is 12 amperes continuously or 30 amperes for one minute. The interrupting ratings are listed in the following table:

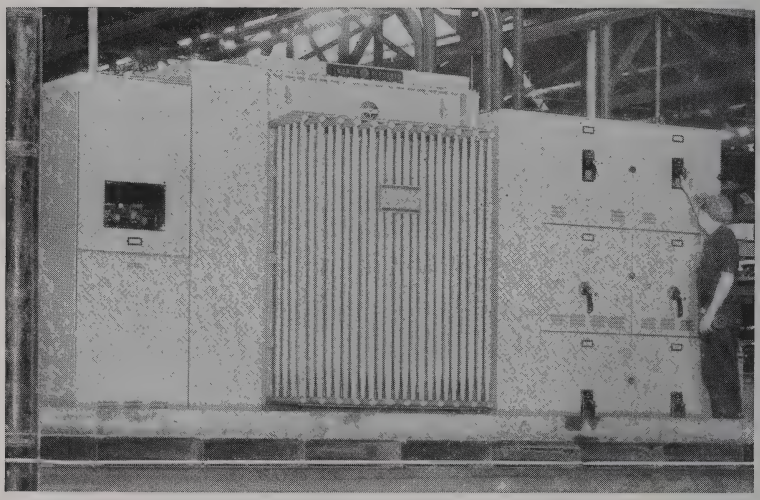
Interrupting Ratings of Contacts in Amperes

Contact-circuit Volts*		Type HGA		Type HMA	
A-c	D-c	Single Break	Double Break	Single Break	Double Break
Noninductive Circuits					
.....	6–32	20	50	15	30
.....	48	10	35	10	20
.....	125	3	20	1.5	3
.....	250	0.75	2.5	0.25	0.5
115	.....	30	50	20	30
230	.....	20	30	13	25
460	.....	10	15	5	10
Inductive Circuits					
.....	6–32	10	50	7.5	20
.....	48	5	30	3	7.5
.....	125	1	5	0.75	1.0
.....	250	0.2	0.4	0.1	0.25
115	.....	20	30	15	15
230	.....	15	20	10	10
460	.....	7.5	10	5	5

* Attention should be paid to the fact Type HMA relays are available up to 125 volts, d-c, or 230 volts a-c only

G-E LOAD-CENTER UNIT SUBSTATIONS

The New and Improved Way to Distribute Low-voltage Power in Industrial Plants, Commercial Buildings, and for Power-station Auxiliaries



G-E load-center unit substation, with Pyranol transformer and metal-enclosed drawout air circuit breakers, installed indoors at load center

Load-center distribution has many big advantages. Elimination of long secondary cable runs, which cause voltage drop, results in better voltage conditions. Proper voltage at point of use means improved motor performance, bright and steady lights. G-E metal-enclosed load-center unit substations are completely factory-engineered and factory-assembled, and are shipped ready to install. They can be installed either indoors or outdoors. They can be put underground in vaults, on the roof, on balconies, or in production areas, usually in space that is otherwise unused.

SAVE TIME . . . delivery and installation

G-E load-center unit substations can be selected and ordered quickly and easily from a line of standard units and standard arrangements that fill all requirements of a broad range of applications. Only one purchase transaction is necessary. These units are shipped in two or three complete sections—ready to be bolted together and connected to the power cables. Standardized units, completely assembled and wired at the factory, require no special knowledge by your men to install or to disconnect for removal to new locations.

GREATER SAFETY

All live parts are metal-enclosed. Circuit breakers of adequate interrupting capacity insure adequate circuit protection. Pyranol, which is noninflammable, is normally used for the cooling and insulating liquid of the transformer, providing safety for indoor installations.

FLEXIBILITY IN SELECTION OF EQUIPMENT

General Electric load-center unit substations are adaptable to your particular need. A wide variety of high- and low-voltage switching equipment is available, including oil, Pyranol, or dry-type transformers, and circuit breakers for either manual or electrical operation.

EXTERIOR DESIGN—appearance

The old style of substation construction, with skeleton steel framework and exposed equipment, is a thing of the past. G-E unit substations are modern in appearance and are compact. They take much less space than the old type. Fences are no longer needed to protect personnel.

INDUSTRIAL LIGHTING

When your industrial load is not heavy, the same load-center unit substation which supplies motor power can be used. Dry-type lighting transformers (capacities 5-25 kva), which step 480 volts down to 120 volts, can be mounted or hung almost any place in the plant to supply the lighting load.

RATINGS

These standard load-center unit substations serve loads 600 volts and below (208Y/120, 480 volts, etc.) from incoming lines up to 15 kv.

One complete unit substation may consist of metal-clad incoming-line section with magne-blast power circuit breakers, a Pyranol (or dry-type, or oil-filled) transformer section, and a low-voltage feeder section with drawout air circuit breakers.

Here is the modern way to help insure an adequate power supply at all times—more important than ever in the light of present conditions.

G-E engineers can help you select a low-cost load-center unit substation, compact, complete, to meet all your requirements. Other apparatus can be combined in one of these units if, for instance, you need the addition of a power rectifier. For further catalog information, consult your G-E Distributor and ask for Bulletins GEA-3592 and GEA-3758.

integral
and fractional
horsepower motors

ADVANTAGES OF PURCHASING GENERAL ELECTRIC MOTORS

General Electric motors are manufactured in a wide variety of types and ratings. The most widely used motors—those fulfilling the requirements of the great majority of industrial applications—are listed in this catalog. Motors of large size, nonstandard rating, or special construction are described in other publications.

General Electric motors possess the exacting characteristics needed to power modern industrial machinery. They are mechanically sturdy; they incorporate the latest developments in electrical design; and they provide the essential benefits of long life and unusually trouble-free service. Specified values of current, torque, and speed can be depended upon in every unit.

Electric motors form a most versatile type of drive. They permit the application of power directly to the job. They frequently eliminate gearing and belting requirements altogether. They make it possible to bring processing operations directly into a production line.

The wide choice available in G-E motors permits the efficient application of motors in widely varying types of drives. The different enclosures offered permit the selection of motors that will stand up under the most severe conditions and that can be safely operated in the most hazardous locations. Enclosures can be obtained for installation in the presence of explosive and corrosive fumes, magnetic and abrasive dusts, splashing liquids, outdoor weather, and other adverse conditions.

General Electric motors are backed up by renewal-parts and exchange-plan services that mean economy and long life to any motor installation. G-E renewal parts are built of the same materials and to the same specifications as the original equipment. G-E exchange-plan motors eliminate long delays in repair or replacement of motors in fractional-hp sizes and some integral-hp sizes up through 5 hp.

SELECTION OF MOTORS AND CONTROL

The selection of an electric motor and control for a given application depends upon the following factors.

AVAILABLE POWER

Whether a-c or d-c; the voltage; and, if a-c, the number of phases and frequency.

SELECTION OF MOTOR ENCLOSURE

The purpose of a motor enclosure is to protect vital motor parts, such as windings, from dust, fumes, water, and chemicals, and in some cases to prevent the possibility of an explosion due to overheating or sparking of the motor when the atmosphere is laden with inflammable gases or combustible dust. Open motors, especially of the drip-proof type, provide sufficient protection for all normal operating conditions and are the most economical from an initial-cost standpoint. Open motors should not be installed where more complete enclosures are required to provide low maintenance and long life. The following can be used as a guide in selecting the enclosure required.

Open (Dripproof). For ordinary industrial conditions—all conditions not requiring the more complete enclosures identified below. (Exception: certain specialized conditions involving splashing water or spattering liquids may indicate that splashproof motors are required. Usually, however, if a more complete enclosure is required, the totally enclosed motor is a better selection.)

Totally Enclosed. For extremely moist, dirty, or dusty locations; outdoor operation; or corrosive atmospheres.

Explosion-proof and Dust-explosion-proof. For hazardous-gas and hazardous-dust conditions as defined by the National Electrical Code.

HOW TO SELECT POLYPHASE INDUCTION MOTORS

Determining Type of Motor Required

The type of motor required for a particular application is determined basically by the character of the driven machine and frequently also by the kind of operation desired of it.

Consideration must be given, for example, to number of speeds required, to starting and accelerating requirements, to character of the load and to required speed regulation. In Table I are shown the types of motors commonly available to meet driven-machine requirements. While the large majority of machine requirements are met by general-purpose squirrel-cage motors, the exceptional requirements are tabulated as an aid in preventing misapplication of general-purpose types.

SERVICE FACTOR

The service factor is a multiplier, which, applied to the normal horsepower rating, indicates a permissible loading within the accepted safe limits of temperature rise for the insulation.

Service factors apply only to 40C rise motors and range from 1.4 for the smaller fractional-horsepower a-c motors to 1.15 for integral-horsepower motors above 2 hp. 50C and 55C rise motors do not have a service factor.

VOLTAGE AND FREQUENCY RANGE

Motors will operate successfully under the following conditions of voltage and frequency variations, but not necessarily in accordance with the standards established for operation at normal rating:

Where the variation in voltage does not exceed 10 per cent above or below normal.

Where the frequency variation does not exceed 5 per cent above or below normal.

Where the sum of the voltage and frequency variation does not exceed 10 per cent (provided the variation in frequency does not exceed 5 per cent) above or below normal rating as stamped on motor nameplate.

SELECTION OF MOTORS AND CONTROL

(Continued)

Table I Meeting Requirements of Driven Machine

Requirements of Driven Machine			Examples	Available Motors			Remarks
Type of Drive	Permissible Running Characteristics	Starting Load		Description	Nema Classification	G-E Type	
Single-speed	Constant-speed	Normal	Fans, Saws, Lathes, Centrifugal Pumps, Centrifugal Compressors	Squirrel-cage, Normal-starting-torque, Low-slip	Designs A and B	Type K	See Table II for Locked-rotor Torque. See Fig 1 for Speed-torque curve.
		High Break-away	Reciprocating Pumps, Reciprocating Compressors, Loaded Conveyors	Squirrel-cage, High-starting-torque, Low-slip	Design C	Type KG	See Table III for Locked-rotor Torque. See Fig. 1 for Speed-torque curve.
				Squirrel-cage, High-starting-torque, High-slip	Design D	Type KR	Locked-rotor Torque 275 percent of full-load torque. See Fig. 1 for speed-torque curve.
		High Inertia	Laundry Extractors, Punch Presses, Large Flywheel Loads	Squirrel-cage, Normal-starting-torque, Low-slip	Designs A and B	Type K	Advantageous where torque requirements increase with accelerating speed. (See Fig. 1). See Table II for Locked-rotor torque.
				Squirrel-cage, High-starting torques, High-slip	Design D	Type KR	Use for fluctuating fly-wheel loads.
				Multispeed	.....	Multi-speed Type K	Use for accelerating load in steps of two, three, or four speeds.
				Wound-rotor	.....	Type M	Smooth acceleration possible by use of starting rheostats in secondary circuit.
		Rapid Reversing	Laundry Machines, some Machine Tools	Squirrel-cage, High-starting-torque, High-slip	Design D	Type KR	High-slip characteristics essential in rapid reversing service.
Multi-Speed	Constant-speed	Normal	Stokers, Printing Presses, Conveyors	Squirrel-cage, Normal-starting-torque, Low-slip	.....	Type K	Available with two, three, or four speeds in constant-torque, constant-HP, and variable torque designs.
Adjustable Speed	Varying-Speed	Normal or High	Conveyors, Printing Presses, Rotary Kilns	Wound-rotor	.....	Type M	Has constant-speed characteristics at full speed. Best speed range 2:1.
	Constant-Speed	Normal or High	Conveyors, Printing Presses, Paper Machines, Calenders, Rotary Kilns, Reels, Winches	A-c Commutator Motor	.....	Type ACA	Normal speed range 3:1. Ranges of 6:1 and 20:1 available.
				Packaged Adjustable-Speed Drives	.....	Speed Varitor	M-G set conversion. Wide speed ranges. Automatic controls.
						Thymotrol	Electric conversion. Wide speed ranges. Automatic controls.

SELECTION OF MOTORS AND CONTROL

(Continued)

The starting and maximum running torque of a-c induction motors will vary as the square of the voltage, the speed varying directly with the frequency.

CONTROL

Dial-type rheostats are used only where starting requirements are not severe, and starting is infrequent. Hand (except drum-type) control is used where starting service is infrequent. Remote magnetic control is used where starting is frequent; where control is used in conjunction with various pilot auxiliaries, as pressure or float switches; where it may be desirable to place control some distance from motor, yet have full control over it at all times, such as with push-button stations.

For all applications involving reversing service, engineering recommendations should be obtained.

Table II Locked-rotor Torque of Normal-starting-torque Squirrel-cage Motors—NEMA Design A or B (G-E Type K)

HP 60-Cycle, 3- and 2-Phase, Single-Speed Motors, Continuous-Rated	Locked-Rotor Torque Expressed in Per Cent of Full-Load Torque			
	3600 RPM	1800 RPM	1200 RPM	900 RPM
1	.....	275	175	150
1½	175	265	175	150
2	175	250	175	150
3	175	250	175	150
5	150	185	160	130
7½	150	175	150	125
10	150	175	150	125
15	150	165	140	125
20	150	150	135	125
25	150	150	135	125
30	150	150	135	125
40	135	150	135	125
50	125	150	135	125
60	125	150	135	125
75	110	150	135	125
100	110	125	125	125
125	100	110	125	125
150	100	110	125	125
200	100	100	125	125

Table III Locked-rotor Torque of High-starting-torque Squirrel-cage Motors—NEMA Design C (G-E Type KG)

HP Continuous 60-Cycle, 3- and 2-Phase, Single-Speed Motors, Continuous-Rated	Locked-Rotor Torque Expressed in Per Cent of Full-Load Torque		
	1800 RPM	1200 RPM	900 RPM
3	.....	250	225
5	250	250	225
7½	250	225	200
10	250	225	200
15	225	200	200
20	200	200	200
25 to 200 max.	200	200	200

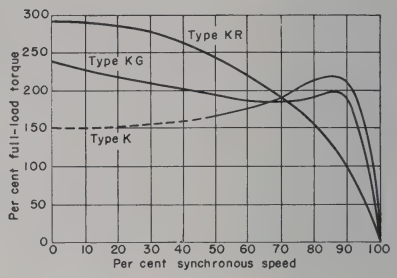


Fig. 1 Typical Speed-torque curves of Squirrel-cage Motors

Type K—Normal-starting-torque, low-slip. Nema design A or B.

Type KG—High-starting-torque, Low-slip. Nema design C.

Type KR—High-slip, High-starting-torque. Nema design D.

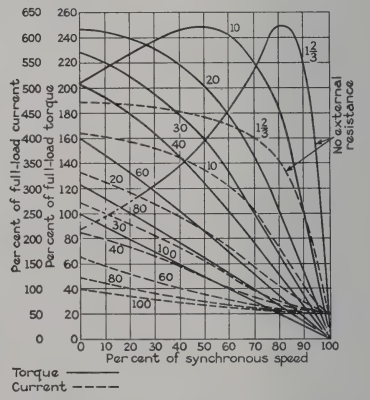


Fig. 2 Typical Speed-torque curves of Wound-rotor Motor with Different Secondary Resistances

Various speed-torque and corresponding speed-current curves can be obtained by using different valves of external secondary resistance. Numbers on the curves indicate the secondary (rotor) circuit resistance in per cent of value required to give full-load torque at stand still. Other values can be obtained by varying the secondary resistance to meet specific requirements.

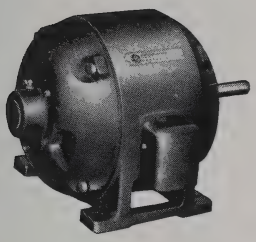
The curves for "no external resistance" are merely reference curves as appreciable resistance is necessary to obtain positive values of initial starting torque.

G-E *TRI-CLAD SQUIRREL-CAGE INDUCTION MOTORS

Type K—Normal Starting Torque

Type KG—High Starting Torque

1 to 200 Hp., 2- and 3-phase,
60 Cycles, Continuous Duty, 40 C Rise



Tri-Clad open (drippproof), squirrel-cage motor

Type K—Normal Starting Torque
NEMA Classification Design B

The Type K induction motor is suitable for either full-voltage or reduced-voltage starting, depending upon the permissible starting current of the particular application. It has the highest efficiency and power factor of all the standard lines of induction motors, and is well fitted for driving pumps, fans, blowers, line shafting, and similar equipment requiring continuous operation with fairly constant load.

In general, this motor can be used for any application where continuous operation and constant speed are required, together with a fairly constant load.

Type KG—High Starting Torque
NEMA Classification Design C

The Type KG motor has high starting torque and low starting current and is intended to supply the need for motors having a higher percentage of starting torque than can be obtained from the Type K motors with full voltage applied, yet having a starting current equal to the Type K motor, together with high full-load efficiency and power factor.

Recommended for such drives as compressors without unloading valves, conveyors which must be started loaded, and other applications requiring high starting torque.

Type KG motors starting at full voltage should be applied only where high torque at start is actually required and only when the driven mechanism will not be injured by the sudden application of this torque. This latter caution applies especially to drives or driven machines utilizing belts, either of the flat or V type, chains, or other flexible or flat elements.

* Registered trade-mark of General Electric Co.

WE HAVE NOT LISTED EVERYTHING
WE DISTRIBUTE IN THIS CATALOG —
IF YOU CANNOT FIND WHAT YOU ARE
LOOKING FOR, CONTACT OUR NEAREST
OFFICE FOR PROMPT ASSISTANCE.

G-E TRI-CLAD SQUIRREL-CAGE INDUCTION MOTORS
GENERAL-PURPOSE, OPEN (DRIPPROOF), HORIZONTAL

Type K, Normal Starting Torque

60 Cycles, 3- and 2-phase

Hp Continuous 40 C Rise	Speed, Rpm		Current, Full-load at 220 Volts, Amperes	Code Letter	110 Volts (Frames 326 and smaller) 208, 220, 440, and 550 Volts (All frames)		
	Sync	Full-load (approx.)			Frame	▲Book Price, Motor Only	
						Sleeve-bearing	Ball-bearing
1	1800	1720	3.16	M	203	.....	**$117**
	1200	1145	3.38	M	204	.....	**138**
	900	855	4.1	M	225	.....	**187**
1½	3600	3475	4.96	L	203	.....	**143**
	1800	1730	4.43	L	204	.....	**138**
	1200	1140	4.94	L	224	.....	**160**
	900	860	5.48	L	254	.....	**223**
2	3600	3490	5.95	K	204	.....	**152**
	1800	1735	5.84	K	224	.....	**160**
	1200	1140	6.36	K	225	.....	**178**
	900	860	6.94	K	254	.....	**258**
3	3600	3455	8.75	J	224	.....	**176**
	1800	1725	8.45	J	225	.....	**178**
	1200	1145	9.14	J	254	.....	**212**
	900	860	9.85	J	284	.....	**292**
5	3600	3460	14.2	H	225	.....	**196**
	1800	1735	13.7	H	254	.....	**212**
	1200	1150	14.2	H	284	.....	**278**
	900	865	16.1	H	324	.....	**370**
7½	3600	3500	19.8	G	254	.....	**233**
	1800	1735	20.1	G	284	.....	**278**
	1200	1160	21.2	G	324	.....	**352**
	900	865	22.8	G	326	.....	**443**
10	3600	3480	25.6	G	284	.....	**306**
	1800	1740	26.4	G	324	.....	**352**
	1200	1160	27.6	G	326	.....	**422**
	900	875	29.6	G	364	.....	**556**
15	3600	3480	37.6	F	324	.....	**405**
	1800	1745	39.2	F	326	.....	**422**
	1200	1170	39.6	F	364	.....	**556**
	900	875	43.4	F	365	.....	**682**
20	3600	3490	49.5	F	326	.....	**485**
	1800	1760	51.0	F	364	.....	**556**
	1200	1170	52.0	F	365	.....	**682**
	900	875	55.8	F	404	**$848**	**848**
25	3600	3540	62.6	F	364S	.....	**667**
	1800	1760	62.6	F	364	.....	**653**
	1200	1170	63.0	F	404	**848**	**848**
	900	875	67.8	F	405	**972**	**972**
30	3600	3550	73.5	F	364S	.....	**743**
	1800	1760	74.2	F	365	.....	**750**
	1200	1170	74.6	F	405	**972**	**972**
	900	875	79.6	F	444	**1214**	**1214**

Direction of Rotation. For motors in frames 444S and larger at 3600 rpm the direction of rotation must be specified (as viewed from end opposite driving end) so that fan can be properly arranged for ventilation.

50 Cycles. Listed open 40 C general-purpose 60-cycle polyphase motors will operate within 50 C rise on 50-cycle circuits of 110, 220, 440, 550, and 2300 volts. Sixty-cycle horsepower ratings and prices apply. Synchronous speeds are 5/6 of those at 60 cycles.

208 Volts. Listed Type K open 220-volt 60-cycle motors are usable on 208-volt network systems with an 11 per cent torque reduction and other modified characteristics.

Dual Voltage. Motors for 220 and 440 volts in frames 445 and smaller are dual-voltage, 220/440 volts.

▲*This page includes new "Book" prices subject o discount. For the correct discount, consult your G-E supplier*

G-E TRI-CLAD SQUIRREL-CAGE INDUCTION MOTORS
GENERAL-PURPOSE, OPEN (DRIPPROOF), HORIZONTAL

Type K, Normal Starting-torque

60 Cycles, 2- and 3-phase

Hp Continuous 40 C Rise	Speed, Rpm		Current Full-load at 220 Volts, Amperes	Code Letter	208, 220, 440, and 550 Volts			2300 Volts		
	Sync.	Full-load (Approx)			Frame	▲Book Price, Motor Only		Frame	▲Book Price, Motor Only	
						Sleeve-bearing	Ball-bearing		Sleeve-bearing	Ball-bearing
40	3600	3550	97	F	365S	.....	**$818**		.....	.....
	1800	1765	98.6	F	404	**$933**	**933**		.....	.....
	1200	1175	99.6	F	444	**1214**	**1214**	445	**$1740**	**$1740**
	900	875	104	F	445	**1456**	**1456**	504U	**1982**	**1982**
50	3600	3550	121	F	404S	**1102**	**1102**		.....	.....
	1800	1765	120	F	405S	**1118**	**1118**	445S	**1748**	**1748**
	1200	1175	123	F	445	**1456**	**1456**	504U	**1982**	**1982**
	900	875	127	F	504U	**1788**	**1788**	505	**2314**	**2314**
60	3600	3550	144	F	405S	**1264**	**1264**		.....	.....
	1800	1770	146	F	444S	**1396**	**1396**	445S	**1922**	**1922**
	1200	1175	147	F	504U	**1788**	**1788**	505	**2314**	**2314**
	900	875	148	F	505	**2150**	**2150**	6323	**2676**	**2676**
75	3600	3560	182	F	444S	**1700**	**1700**	445S	**2226**	**2226**
	1800	1770	182	F	445S	**1674**	**1674**	504S	**2200**	**2200**
	1200	1175	182	F	505	**2150**	**2150**	505	**2622**	**2622**
	900	875	190	F	6324	**2552**	**2552**	6324	**3024**	**3024**
100	3600	3560	240	F	445S	**2184**	**2184**	504S	**2710**	**2710**
	1800	1770	241	F	504S	**2146**	**2146**	505S	**2672**	**2672**
	1200	1180	249	F	6323S	**2752**	**2890**	6323S	**3224**	**3385**
	900	875	252	F	6325	**3190**	**3350**	6325	**3662**	**3845**
125	3600	3560	299	F	504S	**2861**	**2861**	504S	**3387**	**3387**
	1800	1770	300	F	505S	**2580**	**2580**	6323S	**3106**	**3261**
	1200	1180	306	F	6324S	**3354**	**3354**	6324S	**3826**	**4017**
	900	875	311	F	6333	**3758**	**3946**	6333	**4114**	**4320**
150	3600	3560	353	F	505S	**3655**	**3655**	505S	**4101**	**4101**
	1800	1770	356	F	6324S	**3110**	**3266**	6324S	**3556**	**3734**
	1200	1180	363	F	6325S	**3922**	**4118**	6235S	**4278**	**4492**
	900	875	367	F	6334S	**4312**	**4528**	6334S	**4548**	**4775**
200	3600	3565	471	F	6326S	**5164**	.....	6326S	**5400**	.....
	1800	1770	470	F	6325S	**3972**	**4171**	6325S	**4208**	**4418**
	1200	1180	484	F	6334S	**4854**	**5097**	6334S	**5080**	**5334**
	900	875	487	F	6335S	**5376**	**5645**	6335S	**5554**	**5832**

Direction of Rotation. For motors in frames 444S and larger at 3600 rpm the direction of rotation must be specified (as viewed from end opposite driving end) so that fan can be properly arranged for ventilation.

50 Cycles. Listed open 40 C general-purpose 60-cycle polyphase motors will operate within 50 C rise on 50-cycle circuits of 110, 220, 440, 550, and 2300 volts. Sixty-cycle horsepower ratings and prices apply. Synchronous speeds are 5/6 of those at 60 cycles.

208 Volts. Listed Type K open 220-volt 60-cycle motors are usable on 208-volt network systems with an 11 per cent torque reduction and other modified characteristics.

Dual Voltage. Motors for 220 and 440 volts in frames 445 and smaller are dual-voltage, 220/440 volts.

▲*This page includes new "Book" prices subject o discount. For the correct discount, consult your G-E supplier*

G-E TRI-CLAD SQUIRREL-CAGE INDUCTION MOTORS
GENERAL-PURPOSE, OPEN (DRIPPROOF), HORIZONTAL
Type KG, High Starting-torque; 60 Cycles, 3- and 2-phase

Hp Continuous 40 C Rise	Speed, Rpm		Current, Full-load at 220 Volts, Amperes	Code Letter	110 Volts (Frames 326 and smaller) 208, 220, 440, and 550 Volts (All frames)			2300 Volts		
						▲Book Price, Motor Only			▲Book Price, Motor Only	
	Sync	Full-load (approx.)			Frame	Sleeve-bearing	Ball-bearing	Frame	Sleeve-bearing	Ball-bearing
3	1200	1145	10.0	J	254	.....	$223	.....	.....	.....
	900	860	11.1	J	284	.....	307	.....	.....	.....
5	1800	1735	14.4	H	254	.....	223	.....	.....	.....
	1200	1150	15.1	H	284	.....	292	.....	.....	.....
	900	855	17.3	H	324	.....	389	.....	.....	.....
7½	1800	1730	21.0	G	284	.....	292	.....	.....	.....
	1200	1160	22.0	G	324	.....	370	.....	.....	.....
	900	865	24.8	G	326	.....	465	.....	.....	.....
10	1800	1735	27.3	G	324	.....	370	.....	.....	.....
	1200	1160	28.5	G	326	.....	443	.....	.....	.....
	900	875	32.0	G	364	.....	598	.....	.....	.....
15	1800	1735	39.8	F	326	.....	443	.....	.....	.....
	1200	1165	41.2	F	364	.....	598	.....	.....	.....
	900	875	43.8	F	365	.....	733	.....	.....	.....
20	1800	1745	53.8	F	364	.....	598	.....	.....	.....
	1200	1165	53.6	F	365	.....	733	.....	.....	.....
	900	875	57.3	F	404	$912	912	.....	.....	.....
25	1800	1745	65.5	F	364	.....	702	.....	.....	.....
	1200	1165	64.6	F	404	912	912	.....	.....	.....
	900	875	68.7	F	405	1045	1045	.....	.....	.....
30	1800	1745	78.2	F	365	.....	806	.....	.....	.....
	1200	1165	76.4	F	405	1045	1045	.....	.....	.....
	900	875	81.0	F	444	1396	1396	.....	.....	.....
40	1800	1755	104.0	F	404	1003	1003	.....	.....	.....
	1200	1175	101.2	F	444	1396	1396	.....	.....	.....
	900	875	108.0	F	445	1674	1674	.....	.....	.....
50	1800	1760	128.0	F	405S	1202	1202	.....	.....	.....
	1200	1175	125.0	F	445	1674	1674	.....	.....	.....
	900	875	134.0	F	504U	2056	2056	.....	.....	.....
60	1800	1770	154	F	444S	1605	1605	445S	$2210	$2210
	1200	1175	150	F	504U	2056	2056	505	2661	2661
	900	875	160	F	505	2473	2473	6323	3077	3231
75	1800	1770	190	F	445S	1925	1925	504S	2530	2530
	1200	1175	186	F	505	2473	2473	505	3015	3015
	900	.....	.....	.....	6324	2935	2935	6324	3478	3652
100	1800	1775	254	F	504S	2468	2468	505S	3073	3073
	1200	.....	.....	.....	6323S	3165	3323	6323S	3708	3893
	900	.....	.....	.....	6325	3669	3852	6325	4211	4422
125	1800	1775	313	F	505S	2967	2967	6323S	3572	3751
	1200	.....	.....	.....	6324S	3857	4050	6324S	4400	4620
	900	.....	.....	.....	6333	4322	4538	6333	4731	4968
150	1800	.....	.....	.....	6324S	3577	3756	6324S	4089	4293
	1200	.....	.....	.....	6325S	4510	4736	6325S	4920	5166
	900	.....	.....	.....	6334S	4959	5207	6334S	5230	5492
200	1800	.....	.....	.....	6325S	4568	4796	6325S	4839	5081
	1200	.....	.....	.....	6334S	5582	5861	6334S	5842	6134
	900	.....	.....	.....	6335S	6182	6491	6335S	6387	6706

50 Cycles. Listed open 40 C general-purpose 60-cycle polyphase motors will operate within 50 C rise on 50-cycle circuits of 110, 220, 440, 550 and 2300 volts. Sixty-cycle horsepower ratings and prices apply. Synchronous speeds are 5/6 of those at 60 cycles.

208 Volts. Listed Type K open 60-cycle motors are usable on 208-volt network systems with an 11 per cent torque reduction and other modified characteristics.

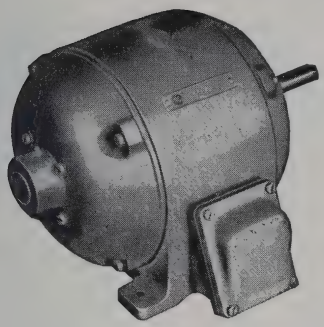
Dual Voltage. Motors for 220 and 440 volts in frames 445 and smaller are dual-voltage, 220/440 volts.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

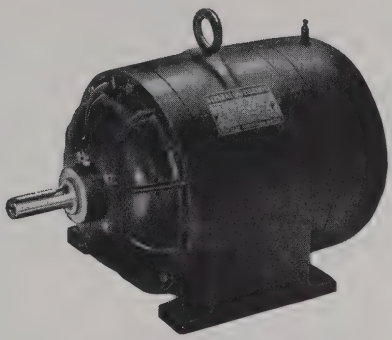
G-E TRI-CLAD SQUIRREL-CAGE INDUCTION MOTORS TOTALLY ENCLOSED, HORIZONTAL

TYPE K—NORMAL STARTING TORQUE

Standard and Explosion-proof—1 to 200 Hp.
2- and 3-phase, 60 Cycles, Continuous Duty, 55 C Rise



Type K totally enclosed nonventilated motor



Type K totally enclosed, fan-cooled motor

General Electric has a complete line of totally enclosed motors which have been tested and listed by the Underwriters' Laboratories for Class I, Group D (gasoline); Class II, Group E (magnesium or aluminum dust); Class II, Group F (coal or coke dust); and Class II, Group G (grain dust) service. Motors must be specified for the respective service in order that they may bear the proper Underwriters' label indicating suitability for the conditions applied.

In the smaller ratings, motors are built in totally enclosed (not fan-cooled) frames. In the larger ratings, the totally enclosed, fan-cooled design is standard. The latter type permits total enclosure of a motor, with full open-motor horsepower rating in those sizes which would otherwise require larger frames.

The fan-cooled type of enclosure essentially involves motors totally enclosed with an additional housing which has an external fan mounted at the end opposite the pulley. This fan draws air and directs it over the motor frame along especially designed ventilating paths, and exhausts it at the pulley end. The fans on the motor rotor keep the air inside the motor agitated, thus dissipating heat from the motor to the frame.

Type K, Normal Starting-torque
60 Cycles, 3- and 2-phase

Hp Continuous 55 C Rise	Speed, Rpm		Current Full-load at 220 Volts, Amperes	Code Letter	110 Volts (Frames 326 and smaller); 208, 220, 440, and 550 Volts (All Frames)			
					Frame	▲Book Price, Motor Only, Ball-bearing		
	Sync	Full-load (Approx)				Standard	Class I, Group D; Class II, Groups E, F, G†	Class I, Group C†
1	1800	1720	3.14	M	203*	**$150**	**$198**	**$244**
	1200	1140	3.44	M	204*	**176**	**228**	**274**
	900	850	4.16	M	225*	**203**	**255**	**301**
1½	3600	3460	4.21	L	203*	**192**	**244**	**290**
	1800	1730	4.52	L	204*	**176**	**228**	**274**
	1200	1145	4.75	L	224*	**194**	**246**	**292**
	900	855	5.8	L	254*	**245**	**313**	**365**
2	3600	3500	5.34	K	204*	**204**	**252**	**298**
	1800	1735	5.35	K	224*	**212**	**264**	**310**
	1200	1160	6.15	K	225*	**234**	**300**	**346**
	900	865	7.12	K	254*	**324**	**396**	**458**
3	3600	3500	7.95	J	224*	**246**	**298**	**344**
	1800	1725	7.60	J	225*	**248**	**300**	**346**
	1200	1155	8.80	J	254*	**296**	**364**	**416**
	900	860	9.55	J	284*	**410**	**482**	**544**

*
†} See footnote on following page.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E TRI-CLAD SQUIRREL-CAGE INDUCTION MOTORS TOTALLY ENCLOSED, HORIZONTAL

60 Cycles, 3- and 2-phase — **Type K, Normal-starting-torque**

Hp Continuous 55 C Rise	Speed, Rpm		Current Full-load at 220 Volts, Amperes	Code Letter	110 Volts (Frames 326 and smaller) 208, 220, 440, 550 Volts (All Frames)				2300 Volts		
						▲Book Price, Motor only, Ball-bearing				▲Book Price, Motor only, Ball-bearing	
	Sync.	Full-load (Approx)			Frame	Standard	Class I, Group D; Groups E, F, G†	Class I, Group C†	Frame	Standard	Class I, Group D, Groups E, F, G†
5	3600	3460	14.8	H	225	$266	$318	$364			
	1800	1750	12.5	H	254*	296	364	416			
	1200	1150	14.4	H	284	396	468	530			
	900	860	16.3	H	324	532	624	712			
7½	3600	3470	21	G	254	317	385	437			
	1800	1730	20.4	G	284	396	468	530			
	1200	1155	21.3	G	324	514	606	694			
	900	860	23.5	G	326	605	697	785			
10	3600	3470	27.8	G	284	424	496	558			
	1800	1735	27.2	G	324	514	606	694			
	1200	1155	27.5	G	326	584	676	764			
	900	875	30	G	364	790	926				
15	3600	3490	39	F	324	567	659	747			
	1800	1745	38	F	326	584	676	764			
	1200	1170	39.6	F	364	790	926				
	900	875	43.4	F	365	966	1102				
20	3600	3500	50.8	F	326	647	739	827			
	1800	1760	54	F	364	790	926				
	1200	1170	52.4	F	365	966	1102				
	900	875	57.1	F	404	1184	1384				
25	3600	3550	62.6	F	365S	1018	1154				
	1800	1760	66	F	365	937	1073				
	1200	1170	64	F	404	1184	1384				
	900	875	70.6	F	405	1388	1588				
30	3600	3555	74.5	F	404S	1156	1356				
	1800	1760	78.5	F	404	1086	1286				
	1200	1170	76.4	F	405	1388	1588				
	900	875	79.6	F	444	1734	2008				
40	3600	3555	98	G	405S	1316	1516				
	1800	1770	102	F	405	1349	1549		445	$2085	$2285
	1200	1175	102	F	444	1734	2008		504U	2260	2534
	900	875	104	F	445	2090	2364		504U	2616	2890
50	3600	3560	122	G	444S	1842	2116				
	1800	1770	127	G	444S	1750	2024		504S	2380	2654
	1200	1175	127	F	445	2090	2364		504U	2616	2890
	900	875	127	G	504U	2498	2788		505	3024	3314
60	3600	3560	148	H	445S	2151	2425		504S‡	2677	2951
	1800	1770	151	G	445S	2170	2444		504S	2696	2970
	1200	1180	150	G	504U	2498	2788		505	3024	3314
	900	875	151	G	505	3350	3640		6325	3876	4166
75	3600	3570	182	H	504S‡	2996	3286		504S‡	3522	3812
	1800	1770	188	G	504S	2726	3016		505S	3252	3542
	1200	1180	186	G	505	3350	3640		6325	3822	4112
	900	885	192	G	6325	4140	4554		6325	4612	5026
100	3600	3570	237	H	505S‡	4040	4330		505S‡	4566	4856
	1800	1775	248	G	505S	3668	3958		6325S	4194	4484
	1200	1180	249	G	6325S	4340	4774		6325S	4812	5246
	900	885	255	G	6326	5902	6492		6326	6374	6964
125	3600	3570	294	H	6325S‡	5722	6294		6325S‡	6248	6820
	1800	1780	308	H	6325S	4954	5449		6325S	5480	5975
	1200	1180	310	H	6326S	6373	7010		6326S	6845	7482
	900	885	319	H	6333	7140	7854		6333	7496	8210
150	3600	3570	354	H	6326S‡	7018	7720		6326S‡	7467	8166
	1800	1780	376	H	6326S	5909	6500		6326S	6355	6946
	1200	1185	372	H	6335S	7452	8197		6333S	7808	8553
	900	885	376	H	6335S	8193	9012		6335S	8429	9248
200	3600	3580	468	G		9295	10225		6328S‡	9531	10461
	1800	1780	484	J		7547	8302		6328S	7783	8538
	1200	1185	493	H	6335S	9223	10145		6335S	9449	10371
	900					10214	11235			10392	11413

* Totally enclosed, nonventilated. Other ratings are totally enclosed, fan-cooled.

† These motors are for hazardous conditions—tested and listed by Underwriters' Laboratories—as follows:
Class I., Group D—All frames.
Class II, Group E—Frames 505 and smaller, except 3600-rpm motors in frames 504S and 505S.
Class II, Groups F and G—All frames except 3600-rpm motors in frames 504S and larger.

‡ Sleeve Bearings.

Direction of Rotation. For motors in frames 444S and larger at 3600 rpm, the direction of rotation must be specified (as viewed from end opposite driving end), so that fan can be properly arranged for ventilation.

208 Volts. Listed Type K totally enclosed 220-volt 60-cycle motors are usable on 208-volt network systems with an 11 per cent torque reduction and other modified characteristics.

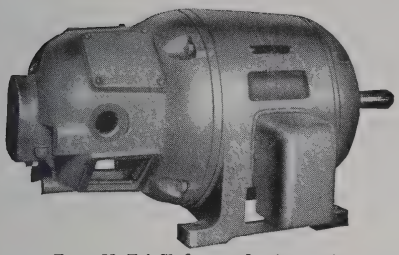
Dual Voltage. Motors for 220 and 440 volts in frames 445 and smaller are dual-voltage, 220/440 volts.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E TRI-CLAD WOUND-ROTOR INDUCTION MOTORS GENERAL-PURPOSE, OPEN (DRIPPROOF)

TYPE M—CONSTANT-SPEED AND ADJUSTABLE-VARYING-SPEED

1 to 200 Hp, 2- and 3-phase, 60 Cycles, Continuous Duty, 40 C Rise



Type M Tri-Clad wound-rotor motor

Type M wound-rotor induction motors have both constant- and adjustable-varying-speed characteristics, the desired speed characteristics being obtained by selecting controllers of the proper types. This type of motor is suitable for constant-speed applications requiring frequent starting or reversing under heavy load, or where exceptionally high starting torque is encountered. It can also be used on applications requiring adjustable-varying-speed characteristics. For this type of service, the speed can be adjusted to any value over a considerable range but, once adjusted, will vary with change in load.

60 Cycles, 3- and 2-phase — **Type M Wound-rotor**

Hp Continuous 40 C Rise	Speed, Rpm		Current, Full-load at 220 Volts, Amperes		110 Volts (2-hp and smaller); 208, 220, 440, and 550 Volts (All ratings)		
						▲Book Price, Motor Only	
	Sync	Full-load (Approx.)	Primary	Secondary, Per Lead	Frame	Sleeve-bearing	Ball-bearing
1	1800				224		$362
	1200				224		388
	900	835	6.65	5.95	225		506
1½	1800				224		388
	1200	1100	7.05	7.30	224		434
	900				254		580
2	1800	1685	6.70	8.40	225		435
	1200	1120	8.95	8.40	225		482
	900	845	8.40	8.40	254		642
3	1800	1690	9.80	10.3	225		482
	1200	1120	10.0	10.3	254		552
	900	845	12.6	10.3	284		704
5	1800	1705	14.3	18.8	254		552
	1200	1125	15.8	18.8	284		670
	900	845	18.7	18.8	324†		846
7½	1800	1715	20.7	23.1	284		670
	1200	1140	22.3	23.1	324†		806
	900	855	27.7	23.1	326		968
10	1800	1720	27.1	26.6	324		806
	1200	1140	29.9	26.6	326		922
	900	865	35.0		365		1158
15	1800	1735	40.0	32.6	326		1014
	1200	1160	42.0		365		1158
	900	865	45.0		404	$1404	1404
20	3600						1853
	1800	1740	53.0		364		1173
	1200	1160	55.0		404	1404	1404
	900	865	58.0		405	1592	1592
25	3600				404S	2246	2246
	1800	1745	66.0		365		1332
	1200	1160	68.0		405	1592	1592
	900	865	70.0		444	1756	1756
30	3600				405S	2547	2547
	1800	1745	76.0		404	1615	1615
	1200	1165	80.0		444	1756	1756
	900	870	83.0		445	2060	2060

† Two-phase motors in these ratings are for single-voltage only.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier*

G-E TRI-CLAD WOUND-ROTOR INDUCTION MOTORS
GENERAL-PURPOSE, OPEN (DRIPPROOF)—Continued

Type M Wound-rotor

60 Cycles, 3- and 2-phase

Hp Continuous 40 C Rise	Speed, Rpm		Current, Full-load at 220 Volts, Amperes		208, 220, 440, and 550 Volts			2300 Volts		
						▲Book Price, Motor Only			▲Book Price, Motor Only	
	Sync	Full-load (Approx.)	Primary	Secondary, per Lead	Frame	Sleeve-bearing	Ball-bearing	Frame	Sleeve-bearing	Ball-bearing
40	3600				444S	$2810	$2810			
	1800	1745	101		405	1910	1910			
	1200	1165	103		445	2060	2060	445*	$2506	$2506
	900	870	109	85	504U	2416	2416	504U*	2874	2874
50	3600				445S	3296	3296			
	1800	1745	126		444S	2107	2107	445S	2553	2553
	1200	1170	128	129	504U	2416	2416	504U	2862	2862
	900	870	135	79	505	2718	2718	505	3164	3164
60	3600				504S	3866	3866	504S*	4412	4412
	1800	1755	150		445S	2472	2472	504S	2862	2862
	1200	1170	151	129	505	2718	2718	505	3108	3108
	900	870	160	150	6323	2954	3012	6323	3344	3511
75	3600				505S	4349	4349	505S	4895	4895
	1800	1755	183	145	504S	2899	2899	505S	3255	3255
	1200	1165	188	178	6323S	3072	3226	6323S	3428	3599
	900	870	193	145	6324	3426	3597	6324	3782	3971
100	3600				6326S	5097		6326S	5569	
	1800	1760	244	142	505S	3398	3398	6323S	3754	3942
	1200	1165	246	192	6324S	3718	3904	6324S	4074	4278
	900	870	256	150	6325	4110	4316	6325	4466	4689
125	3600				6328S	5832		6328S	6246	
	1800	1760	304	131	6324S	3888	4082	6324S	4124	4330
	1200	1170	306	200	6325S	4338	4555	6325S	4574	4803
	900	875	316	210	6333	4750	4988	6333	4986	5235
150	3600				6338S	6597		6328S	6953	
	1800	1760	360	134	6325S	4398	4618	6325S	4634	4866
	1200	1170	367	152	6333S	4988	5237	6333S	5166	5424
	900	875	373	217	6334S	5340	5607	6334S	5518	5794
200	3600				6328S	8070		6338S	8248	
	1800	1760	480	175	6334S	5380		6334S	5558	
	1200	1170	484	173	6334S	5802	6092	6334S	5980	6279
	900	875	490	237	6335S	6498	6823	6335S	6666	6999

* Three-phase motors only.

Direction of Rotation. For motors in frames 444S and larger at 3600 rpm the direction of rotation must be specified (as viewed from end opposite driving end) so that fan can be properly arranged for ventilation.

50 Cycles. Listed open 40 C general-purpose 60 cycle polyphase motors will operate within 50 C rise on 50-cycle circuits of 110, 220, 440, 550, and 2300 volts Sixty-cycle horsepower ratings and prices apply. Synchronous speeds are 5/6 of those at 60 cycles.

208 Volts. Listed Type M open 220-volt 60-cycle motors are useable on 208-volt network systems with an 11 per cent torque reduction and other modified characteristics.

Dual Voltage. Motors for 220 and 440 volts in frames 445 and smaller are dual-voltage, 220/440 volts except those two-phase ratings identified as single-voltage.

Temperature Rise. The temperature rise of 3600-rpm motors in frames 504S and larger is 40 C rise on stator and 75 C rise with Class B insulation on rotor.

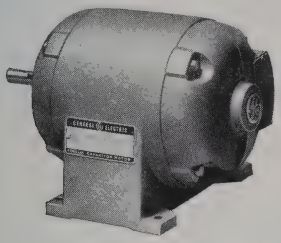
Horsepower Output. The horsepower output at 50 per cent below normal speed will be approximately 40 per cent of nameplate horsepower for 60-cycle motors and 30 per cent of nameplate horsepower for 60-cycle motors operating at 50 cycles, where 50-cycle operation is authorized. The temperature rise at reduced speed is on a 50 C basis. For constant-torque loads, requiring 50 per cent horsepower at 50 per cent speed, refer to your distributor.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

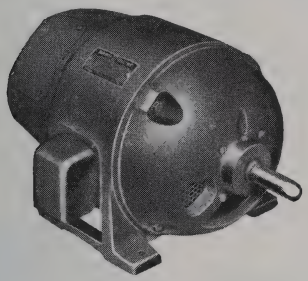
G-E TRI-CLAD INTEGRAL-HP SINGLE-PHASE INDUCTION MOTORS OPEN (DRIPPROOF), HORIZONTAL

TYPE KCS TRI-CLAD CAPACITOR-START, INDUCTION-RUN
TYPE SCR TRI-CLAD REPULSION-INDUCTION MOTOR

Type KCS Tri-Clad capacitor motor is ideally suited for single-phase applications because it provides (1) dependability inherent to the simplicity of capacitor-motor design, (2) quiet operation, and (3) freedom from radio and television intereference.



Type KCS Tri-Clad, capacitor-start, induction-run



Type SCR Tri-Clad repulsion-induction motor

This type of motor may be used for driving air compressors, refrigeration compressors, pumps, fans, conveyers, and all general-purpose applications. It is rated in accordance with NEMA standard basis of rating. The breakdown torques meet NEMA standards for general-purpose motors. It is suitable for either direction of rotation, the direction being changed by reconnection of the motor leads with the motor at rest.

The Type SCR Tri-Clad motor combines the high starting torque of a repulsion motor with the excellent speed characteristics of an induction motor. It is available in ratings which supplement those of the Type KCS capacitor-motors. Some of the many applications for which it is well-adapted include refrigerating machines, pumps, stockers, floor surfacers, and dairy machinery.

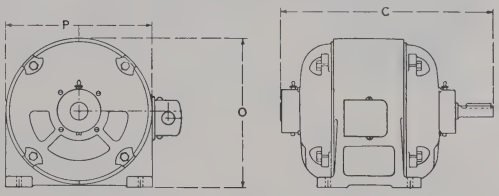
60 Cycles

Hp Cont. 40 C Rise	Speed, Rpm: Sync	Speed, Rpm: Full-load (Approx.)	Current Full-load at 220 Volts, Amp.	Code Letter	Volts	Frame	▲Book Price, Motor Only, Ball-bearing: Type KCS	▲Book Price, Motor Only, Ball-bearing: Type SCR
¾	1200				115/230	204	$223*	
1	1800	1710	7.2	K	115/230	203	160*	
	1200				115/230	224	288	
1½	3600	3425	8.7	J	115/230	203	176†	
	1800	1710	9.7	J	115/230	204	209†	
	1200				115/230	225	364†	
2	3600	3425	11.0	J	115/230	204	230†	
	1800	1710	11.9	J	115/230	224	281†	
	1200	1160	10.4	E	115/230	254		$533
3	3600	3425	16.3	H	115/230	224	337	
	1800	1710	17.3	H	115/230	225	356	
	1800	1710	14.5	F	230	225		
	1200	1160	14.8	D	115/230	255		646
5	3600	3425	26.5	G	230	225	463	
	1800	1745	22.0	E	115/230	254		533
	1200	1160	28.0	E	115/230	324		754
7½	3600	3500	18.0	D	230	326‡		733
	1800	1745	16.0	E	230	324		754
	1200	1160	20.0	D	230	326		1069
10	3600	3500	23.0	C	230	326‡		1093
	1800	1745	21.0	E	230	326		995

* Book price addition for thermal protection, $3.25.
† Book price addition for thermal protection, $4.65.
‡ These motors are built-in Type KC.

HORIZONTAL TRI-CLAD A-C MOTORS
DIMENSIONS AND WEIGHTS

Types K and KG (2- and 3-Phase), Frames 203 to 505
Type M, Frames 224 to 505



Frame No.	Weight, Lbs (Approx.)	Dimensions in Inches: C, Squirrel-cage, Open and T.E.N.V.	C, Squirrel-cage, T.E.F.C.	C, Wound Rotor	O	P
203	67	14			9 27/32	9 11/16
204	74	15	16 15/16			
224	92	16 3/4	17 3/16	19 13/16	11 1/16	11 1/8
225	105	17 1/2	18 5/16	20 11/16		
254	141	20 1/16	20 7/8	23 5/8	12 9/16	12 5/8
284	192	22 11/16	23 1/16	26 7/8	14 1/16	14 1/8
324	256	25 13/16	26 1/8	29	15 7/8	15 3/4
326	288	27 5/16	27 5/8	30 1/2		
364	380	28 3/4	31 1/8	35 1/2	17 1/4	16 1/2
365	430	29 3/8	32 1/8	36 1/2		
404	620	31 5/16	34 1/8	38 3/8	19 1/2	19
405	665	33 1/16	35 5/8	39 7/8		
444	875	36 5/16	39 1/8	44	21 5/8	21 1/4
445	1010	38 5/16	41 1/8	46		
504U	1285	41 5/16	44 1/4	48 7/8	24 5/8	24 1/4
505	1425	43 5/16	46 1/4	50 7/8		

Type KCS (Single-phase), Frames 203 to 225

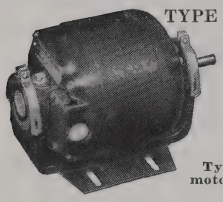
203	64	14 1/2	9 27/32	8 1/4
204	68	14 3/4	9 27/32	8 1/4
224	86	16 5/8	11 1/16	10
225	98	17 3/8	11 1/16	10

▲This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.

G-E FRACTIONAL-HP INDUSTRIAL MOTORS

NOTICE: These fractional-horsepower motors are for industrial service and are available to users, resale purchasers, and distributing manufacturers. They are not to be confused with the fractional-horsepower Utility motors distributed to dealers for farm, home-workshop, and incidental use.

TYPE KH, SPLIT-PHASE, MODERATE STARTING TORQUE, 60 CYCLES



Type KH, 1/6-hp motor with resilient base

Ideally suited for applications requiring an inexpensive motor with moderate-starting torque. Major applications are air-conditioning fans and blowers, office devices, and other similar industrial devices.

Characteristics:

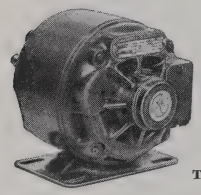
Starting current—normal

Temperature rise:
Open motors—40 C
Enclosed motors—55 C

Time rating—continuous

Hp	Rpm	* Volts	Open (Dripproof) Sleeve-bearing				Totally Enclosed Ball-bearing		Shaft Diameter, Inches
			Motor with Solid Base		Motor with Resilient Base		Motor with Solid Base		
			Model No.	▲Book Price	Model No.	▲Book Price	Model No.	▲Book Price	
1/20	1725	115	5KH23AC-304	**$36.20**	5KH23AC-305	**$38.30**	.....	.....	3/8
1/6	1725	115	5KH43AB835E	**32.00**	5KH43AB837D	**34.10**	5KH45AB1485	**$41.75**	1/2
1/4	1725	115	5KH43AB1251	**35.30**	5KH43AB1252	**37.40**	5KH47AB256	**45.55**	5/8

TYPE KH, SPECIAL SERVICE, SPLIT-PHASE, 60 CYCLES



Type KH, 1/3-hp motor with solid base

These motors have higher starting torques than those described above, and high-starting currents which according to Industry Standards (NEMA) are approved for use only on home-laundry machine applications. The use of these motors on other applications, particularly those where starting is frequent, can involve complaints due to excessive light dip.

Characteristics:

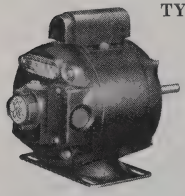
Starting current —high

Temperature rise —50 C

Time rating —continuous

Hp	Rpm	* Volts	Open (Dripproof), Sleeve-bearing				Shaft Diameter, Inches
			Motor with Solid Base		Motor with Resilient Base		
			Model No.	▲Book Price	Model No.	▲Book Price	
1/4	1725	115	5KH43AB1205	**$29.10**	5KH43AB1206	**$31.20**	1/2
1/3	1725	115	5KH45KB22	**30.35**	5KH45KB21	**32.45**	1/2

TYPE KC, CAPACITOR-START, HIGH STARTING TORQUE, 60 CYCLES



Type KC motor with solid base

For applications which require high starting torque such as commercial refrigeration, water-pumping systems, air-conditioning compressors, industrial equipment, and others.

Characteristics:

Starting current—low

Temperature rise:
Open motors—40 C
Enclosed motors—55 C

Time rating—continuous

Hp	Rpm	* Volts	Open (Dripproof) Sleeve-bearing				Totally Enclosed Ball-bearing		Shaft Diameter, Inches
			Motor with Solid Base		Motor with Resilient Base		Motor with Solid Base		
			Model No.	▲Book Price	Model No.	▲Book Price	Model No.	▲Book Price	
1/6	1725	115	5KC43AB280	**$37.90**	5KC43AB282	**$40.00**	5KC45AB1191	**$48.55**	1/2
1/4	1725	115	5KC45AB1400	**42.15**	5KC45AB1402	**44.25**	5KC47AB433	**53.50**	5/8
1/3	1725	115/230	5KC47AB899	**60.30**	5KC47AB900	**62.40**	5KC49AB67	**74.30**	5/8
1/2	1725	115/230	5KC63AB666	**86.10**	5KC63AB692	**90.60**	5KC65AB571	**103.95**	3/4
3/4	1725	115/230	5KC65AB559	**110.30**	5KC65AB579	**114.80**	5KC75AB186	**131.80**	3/4
1	3450	115/230	5KC65EB4	**123.35**	5KC65EB6	**127.85**	5KC78BBB85	**146.80**	3/4

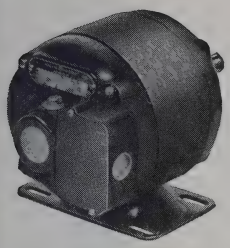
*For 230-volt rating—open motors—add **$3.75** to price of 115-volt rating.
enclosed motors—add **$4.30** to price of 115-volt rating.

Overload Protection — Motors rated 1/6 horsepower and higher are also available with built-in, automatic-reset, overload-protective device. Price addition—Single-voltage, **$2.90**—Dual-voltage, **$3.75.**

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E FRACTIONAL-HP INDUSTRIAL MOTORS
Continued

TYPE K, THREE-PHASE, 60/50 CYCLES



Type K, open motor, 40 frame

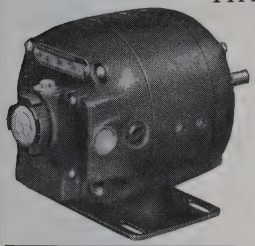
For continuous-duty applications where power supply is three phase. These motors are suitable for driving pumps, compressors, fans, blowers, and similar devices.

Characteristics:
Starting current—normal
Temperature rise:
Open motors—40/50 C
Enclosed motors—55C
Time rating—continuous

Hp	Rpm	Volts	Open (Dripproof) Sleeve-bearing		Totally Enclosed Ball-bearing	
			Model No.	▲Book Price	Model No.	▲Book Price
1/6	1725/1425	208–220	5K43AC317	$55.15	5K43AC1563	$68.35
	1725/1425	440	5K43AC318	60.65	5K43AC1620	74.70
1/4	1725/1425	208–220	5K43AC3	55.15	*5K43AC516	68.35
	1725/1425	440	5K43AC4	60.65	*5K43AC964	74.70
	1140/960	208–220	5K45AC448	79.35	5K45AC540	96.20
	1140/960	440	5K45AC449	87.30	5K45AC537	105.35
1/3	3450/2875	208–220	5K47EC13	61.80	5K47EC41	76.00
	3450/2875	440	5K47EC14	68.00	5K47EC42	83.10
	1725/1425	208–220	5K45AC7	62.05	5K45AC506	76.30
1/3	1725/1425	440	5K45AC8	68.25	5K45AC417	83.45
	1140/960	208–220/440	5K63AC3332	94.00	5K63AC3333	113.05
1/2	3450/2875	208–220	5K49BC19	79.10	5K49BC790	95.90
	3450/2875	440	5K49BC20	87.00	5K49BC756	105.00
	1725/1425	208–220/440	5K63AC3329	78.35	*5K63AC3330	95.05
	1140/960	208–220/440	5K65AC261	112.75	5K73DC2686	134.60
3/4	3450/2875	208–220/440	5K65EC1	98.05	5K65EC3	117.70
	1725/1425	208–220/440	5K65AC260	100.30	5K73DC2654	120.30
1	3450/2875	208–220/440	5K65EC2	123.35	5K77BC658	146.80

* These models are 60 cycles only.

TYPE BC—DIRECT-CURRENT, COMPOUND-WOUND MOTORS



Type BC, open motor 40 frame

For applications where direct-current motors with characteristics similar to those of alternating-current motors are required.

Characteristics:
Temperature rise:
Open motors—40 C
Enclosed motors—55 C
Time rating—continuous

Hp	Rpm	Volts	Open (Dripproof) Sleeve-bearing		Totally Enclosed Ball-bearing		Hp	Rpm	Volts	Open (Dripproof) Sleeve-bearing		Totally Enclosed Ball-bearing	
			Model No.	▲Book Price	Model No.	▲Book Price				Model No.	▲Book Price	Model No.	▲Book Price
1/6	1725	115	5BC42AB81	$91.40	5BC42AB1285	$110.05	1/2	1725	115	5BC66AB1881	$151.75	5BC66AB1893	$179.45
	1725	230	5BC42AB82	95.15	5BC42AB1196	114.35		1725	230	5BC66AB1882	156.75	5BC66AB1894	185.20
1/4	1725	115	5BC44AB1	93.35	5BC44AB593	112.30	3/4	1725	115	5BC68AB41	173.45	5BC74AB1596	204.40
	1725	230	5BC44AB49	97.10	5BC44AB117	116.60		1725	230	5BC68AB42	178.45	5BC74AB1597	210.15
1/3	1725	115	5BC46AB29	103.85	5BC46AB408	124.40	1	3450	115	5BC66AB1879	207.90	5BC74AB1592	244.05
	1725	230	5BC46AB30	107.60	5BC46AB89	128.70		3450	230	5BC66AB1880	212.90	5BC74AB1593	249.80

ORDERING DIRECTIONS

In placing purchase order, specify:
(1) Complete model number if listed, type (First letters in model number such as KH, KC, K, etc.).
(2) Horsepower, full-load speed, voltage, and frequency.
(3) Type of base (solid or resilient).
(4) Direction of rotation as viewed from end opposite the shaft extension end.
(5) Overload protection, if desired.
(6) Enclosure and bearing construction.
(7) Standard control if desired.

CONTROL

Type	Identification
For single-phase motors, Types KH and KC	CR1061
For polyphase motors, Type K	CR1062 or CR7006

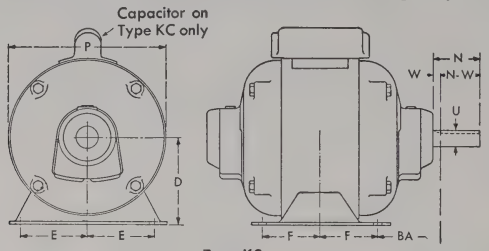
The CR1061 and CR1062 controllers are manually operated switches which provide overload protection.

The CR7006 controller is a magnetic switch which provides overload and undervoltage protection.

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E FRACTIONAL-HP INDUSTRIAL MOTORS
Continued

MOUNTING DIMENSIONS (For estimating only)



Type KC

Motor Frame Group	Motor Ratings	Dimenrions in inches										
		Keyway		Length of Flat or Key	U	N	D	E	F	P	BA	N-W†
		Width	Depth									
20	**All**	Flat	3/64	5/8	3/8	1 1/4	2 5/8	1 3/4	2 7/32	4 5/8	2 1/16	1 1/8
30	**All**	Flat	3/64	1 1/8	1/2	1 5/16	3	2 1/8	1 3/8	5 1/2	2 1/2	1 1/4
40	**1/6 Hp, 1725 Rpm & Smaller. See Note 1**	Flat	3/64	1 1/8	1/2	1 5/16	3 1/2	2 7/16	1 1/2	6 5/16	2 3/4	1 1/2
	1/4 Hp, 1725 Rpm & Larger. See Note 2	3/16	3/32	1 1/2	5/8	1 5/16	3 1/2	2 7/16	1 1/2	6 5/16	2 3/4	1 5/8
60	**All**	3/16	3/32	1 7/8	3/4	2 5/16	4 1/2	2 15/16	2 1/2	7 1/2	3 1/8	2 1/4
70	**All**	3/16	3/32	1 7/8	3/4	2 5/16	4 5/8	3 1/4	2 3/4	8 7/16	3 1/16	2 1/4

Note 1. Includes ¼ hp., 3450 rpm; 1/6 hp, 1725 rpm; ⅛ hp, 1140 rpm; 1/20 hp, 860 rpm; 60-cycle and all smaller ratings built in this frame group.

† W=Allowance for variation in castings after final assembly.

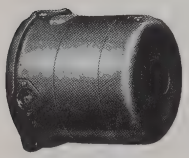
Note 2. Includes 1/3 hp, 3450 rpm; ¼ hp, 1725 rpm; 1/6 hp, 1140 rpm; 1/12 hp, 860 rpm; 60-cycle and all larger ratings built in this frame group. (Exception—¼ and ⅓ hp special-service Type KH motors have 1½ in. by ½ in. shaft dimensions.)

G-E FRACTIONAL-HP REPLACEMENT MOTORS

This listing represents those models of General Electric motors most commonly used for oil burners, fans, blowers, pumps, compressors, and washing machines.

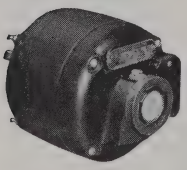
HEATING AND VENTILATION MOTORS

OIL BURNER MOTORS



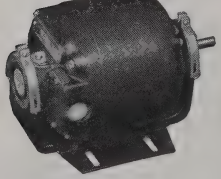
Split-phase, sleeve-bearing, totally enclosed; two lug NEMA std flange mounted; 55 C continuous; built-in manual reset overload protector; streamlined appearance; two 20-inch leads out right-hand side at 3 o'clock; ½-inch dia. shaft; rabbet dia. 6⅜ inches.

AIR CIRCULATOR MOTORS



Split-phase, open, sleeve-bearing continuous-duty, 40 C rise, air over; extended through-bolts on shaft-extension end; cushion mounting rings on bearing housings; tapped holes in stator for mounting; ½-inch dia. shaft.

BELTED FAN AND BLOWER MOTORS



Single-phase, open, sleeve-bearing, resilient base; continuous-duty 40 C rise; built-in automatic reset overload protector; NEMA std moderate starting torque.

Split-phase—
⅙, ¼, ⅓ Hp
Capacitor-start—
½, ¾ Hp

1725 Rpm—115 Volts—60 Cycles

Hp	Model No. CW Rotation	Model No. Stock	Model No. CCW Rotation	▲Book Price
⅓	5KH43AB832Y	4	5KH43AB818Y	**$40.60**
⅙	5KH43AB844Y	2	5KH43AB798Y	**41.60**

115 Volts—60 Cycle

Hp	Rpm	Model No.	▲Book Price
⅓	1140	5KH43AB854	**$42.10**
⅙	1140/860	5KH45AB1846	**54.75**
⅙	1725/1140	5KH43AB855	**46.35**

Resilient base and latches for above—**$2.40** ea. in lots of 1-24; **$1.10** ea. in lots of 25 and up.

1725 Rpm—60 Cycle

Hp	Volts	Shaft Dia	Model No.	▲Book Price
⅙	115	½″	5KH43AB837DX	**$37.00**
¼	115	⅝″	5KH43AB1252X	**38.55**
⅓	115	⅝″	5KH45AB2235X	**44.10**
½	115/230	⅝″	5KC47AB2390X	**78.00**
¾	115/230	¾″	5KC65AB560X	**118.55**

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E FRACTIONAL-HP REPLACEMENT MOTORS
Heating and Ventilation Motors — Continued

SMALL FAN AND BLOWER MOTORS

Type KSP; unit bearing; shaded-pole totally enclosed; all-angle operation; life-time lubrication; two-conductor cord 20 inches long with eyelets; threaded shaft 19/64 inches long with ¼-20 thread; special fan mounting with speed nut on shaft.

1550 Rpm—115 Volts—60/50 Cycle—Air Over

Watts	Model No. CCW Rotation	Model No. CW Rotation	▲Book Price
1.5	5KSP51AL68	5KSP51AL70	$15.90
6	5KSP51EL112	5KSP51EL109	18.10
9	5KSP51EL80	5KSP51EL115	18.60

Accessories (Shipped separately)

Mounting Brackets	△Book Price	Fan Blades	▲Book Price
Triangular Mounting Plate	$0.57	7¾″ (Two blade)	$0.57
Foot Mounting 4⅛″ high C/L	.73	8¾″ (Four blade)	1.11
Foot Mounting 5⅝″ high C/L	.73	10″ (Four blade)	1.40

PUMP AND WATER-SYSTEM MOTORS

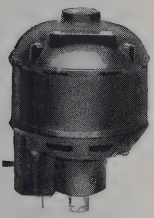
JET PUMP MOTORS

Type KC capacitor-start; protected; 40 C rise; continuous-duty; flat face-mounting; NEMA std dimension; ball-bearing; built-in automatic reset overload protector; clockwise rotation.

3450 Rpm—115/230 Volts—60 Cycle

Hp	Motor with NEMA Std Shaft with Keyway Shaft Dia ⅝ Inches — Model No.	△Book Price	Motor with NEMA Std Shaft with 11/16 in. Thread Shaft Dia ⅝ Inches — Model No.	▲Book Price
½	5KC47LB35X	$73.85	5KC47LB34X	$78.85
½	5KC49MB25X	80.80	5KC49MB26X	85.80
¾	5KC49EB50X	94.15	5KC49EB49X	99.15
1	*5KC65EB1X	121.80	5KC65EB2X	126.80

* This model has shaft ¾ in. dia.



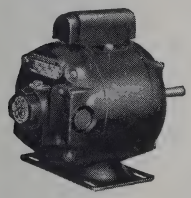
SUMP-PUMP MOTORS

Type KH split-phase; vertical, flange-mounted; dripproof; continuous-duty 50 C rise; NEMA std dimensions; built-in sump switch; built-in automatic reset overload protector; 8-foot rubber-covered cord and plug; coupling on shaft; ball bearing both ends.

1725 Rpm—115 Volts—60 Cycle

Hp	Model No. CW Rotation	Model No. CCW Rotation	▲Book Price
⅓	5KH43AB1266X	5KH43AB1289X	$49.55

BELT-DRIVEN OR COUPLED PUMP MOTORS

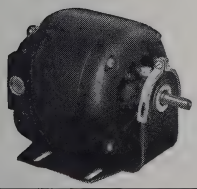


Type KC capacitor-start, open, sleeve-bearing; solid base; continuous-duty 40 C rise; built-in automatic reset overload protector.

1725 Rpm—60 Cycle

Hp	Volts	Model No.	▲Book Price
¼	115	5KC45AB1400X	$45.05
⅓	115/230	5KC47AB899X	64.05
½	115/230	5KC63AB666X	89.85
¾	115/230	5KC65AB559X	114.05

WASHING-MACHINE MOTORS



Type KH special service; split-phase; high-starting torque; sleeve-bearing; resilient base.

Can be used to replace gasoline-engine or 1/4 and 1/3 hp NEMA std washing-machine motors. Shaft dimensions 1½ x ½ inches wih flat.

1725 Rpm—115 Volts—60 Cycles

Hp	Model No.	▲Book Price
⅓	5KH45KB21	$32.45

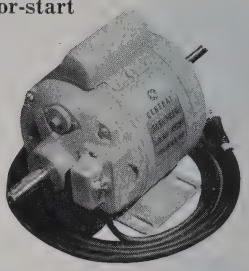
Rotation:
Direction of rotation is determined by facing end of motor opposite shaft. Except where rotation is specified, fractional-hp motors listed in these pages can be reconnected externally for either rotation.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E FRACTIONAL-HP UTILITY MOTORS

NOTICE: General Electric Utility motors are motors built for farm, home-workshop, and incidental use. Their distribution is limited to dealers handling them as items of stock for retail sale.

Open (Dripproof), Split-phase, and Capacitor-start Solid Base, 60 Cycles



G-E Utility motors are especially designed for the large variety of general applications in the shop, farm, and home. Their attractive appearance, sturdy construction, dependable low-cost operation, and simple connections make these motors ideal as a high-quality source of power for incidental use. Outstanding features are —

Continuous duty, 50 C rise
Low operating cost (less than two cents per hour)
Attractive gray finish with red and silver labels
Reversible by external connection
Steel base solidly welded on motor frame

Rating				Features			Model Number	List Price	Shaft Dimensions, Inches
Hp	Speed, RPM	Volts	Full Load, Amp	Bearings	Shaft Extension	Accessories Assembled to Motor			
SPLIT PHASE									
1/4	1725	115	5	Sleeve	Single		1E152	**$17.25**	1 1/2 × 1/2 with Flat
1/3	1725	115	5.8	Sleeve	Single	Cord set only	1E163	**18.55**	1 7/8 × 5/8 with Keyway
1/3	1725	115	5.8	Ball	Double	Cord set and switch	1E164	**25.35**	1 7/8 × 5/8 with Keyway
CAPACITOR START									
1/3	1725	115	5.8	Sleeve	Single	Overload protection	1E175	**$28.25**	1 7/8 × 5/8 with Keyway
1/3	1725	115	5.8	Ball	Double	Cord set, switch, and overload protection	1E165A	**34.25**	1 7/8 × 5/8 with Keyway
1/2	1725	115	7.5	Ball	Double	Cord set, switch, and overload protection	1E166A	**38.05**	1 7/8 × 5/8 with Keyway
1/2	3450	115	6.8	Ball	Double	Cord set, switch, and overload protection	1E167	**44.40**	1 7/8 × 5/8 with Keyway
1/2	1725	115/230	6.8/3.4	Sleeve	Single	Overload protection	1E160A	**50.75**	1 7/8 × 5/8 with Keyway
3/4	3450	115	8.4	Sleeve	Double	Cord set, switch, and overload protection	1E161A	**54.55**	1 7/8 × 5/8 with Keyway
3/4*	1725	115/230	10/5	Sleeve	Single		1E162A	**67.40**	2 1/4 × 3/4 with Keyway

* This motor rated 40° C Rise.

Cord Set—An 8-foot cord-and-plug set which can be used in any ordinary 115-volt outlet.
Switch—A simple ON-OFF toggle switch.

Additional accessories—Shipped separately	List Price
475X77 Pivot Base Kit	**$1.45**
475X78 Extra Set of Brackets for Above	**.60**
5855482AB3π Cord Set and Toggle Switch	**2.70**

π Suitable for use on any utility motor.

Utility Fan Kit, Catalog No. 1E180

9-watt, 1550-rpm, 110-volt, 60-cycle, totally enclosed, shaded-pole, unit-bearing, all-angle operation, includes 10-inch 2-blade fan, cord and plug, mounting bracket and screws—**List price $13.25.**

WARRANTY AND SERVICE PLAN

These motors are backed by dependable 1-year G-E warranty. To aid in providing immediate "Off-the-shelf" replacement of inopeartive motors returned **within** warranty, a convenient arrangement is available. It permits the inoperative motor to be returned for credit in accordance with instructions provided by your distributor. General Electric issues credit **only to the distributor** under this arrangement.

For out-of-warranty motor replacements, a service is provided wherein a factory rebuilt motor is exchanged for the inoperative motor at a nominal price.

G-E INTEGRAL-HORSEPOWER GEAR-MOTORS

AGMA CLASS I

Type K Tri-Clad—Normal-starting-torque—Squirrel-cage—2- and 3-phase—60 Cycles—220, 440, or 550 Volts

Type B—Direct-current—Shunt-wound—115/230 Volts

The following listed integral-horsepower gear-motors are for Class I service, which in accordance with recommendations of the American Gear Manufacturers' Association, is for steady loads not exceeding the normal rating of the motor and eight hours service per day, or for moderate shock loads where the service is intermittent.

Hp Continuous	Nominal Full-load Speed, Rpm	*Gear-motor Frame No.	▲Book Price, Gear-motor Only			
			Horizontal			
			Open		Totally Enclosed, Nonventilated	
					Type K	
			Type K	Type B	Standard	Explosion-proof
1	780	203A928	$269	$438	$317	$365
	640	203A928	273	442	322	370
	520	203A928	277	446	326	374
	420	203A128	281	450	330	378
	350	203A128	287	456	337	385
	280	203A128	295	464	346	394
	230	203A128	307	476	359	407
	190	203A132	321	490	374	422
	155	203A132	335	504	390	438
	125	203A232	353	522	410	458
	100	203A232	371	540	429	477
	84	203A232	385	554	445	493
	68	203A232	409	578	471	519
	56	203A336	429	598	493	541
	45	203A336	457	626	524	572
	37	203A336	483	652	553	601
	30	203A336	517	686	590	638
	25	203A340	545	714	621	669
	20	203A340	587	756	667	715
	16.5	203A344	629	798	713	761
	13.5	203A344	675	844	764	812
1½	780	204A928	$318	$506	$374	$426
	640	204A928	320	508	376	428
	520	204A928	324	512	381	433
	420	204A128	332	520	389	441
	350	204A128	342	530	400	452
	280	204A132	354	542	414	466
	230	204A132	370	558	431	483
	190	204A136	386	574	449	501
	155	204A136	402	590	466	518
	125	204A236	422	610	488	540
	100	204A236	446	634	515	567
	84	204A236	464	652	535	587
	68	204A236	490	678	563	615
	56	204A336	520	708	596	648
	45	204A336	550	738	629	681
	37	204A336	586	774	669	721
	30	204A340	624	812	711	763
	25	204A344	660	848	750	802
	20	204A344	712	900	809	857
	16.5	204A348	762	950	862	914
	13.5	204A348	822	1010	928	980

* Type K explosion-proof motors will be furnished in motor Frames 204, 224, and 225 for 1, 1½, and 2 hp respectively, instead of in the frames shown. For 1½-hp Type K explosion-proof, use gear frames 936, 132, 240, and 340, instead of 928, 128, 236, and 336.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

Table continued on following page

INTEGRAL-HORSEPOWER GEAR-MOTORS

AGMA CLASS I

Type K Tri-Clad—Normal-starting-torque—Squirrel-cage—2- and 3-phase—60 Cycles—220, 440, or 550 Volts

Type B—Direct-current—Shunt-wound—115/230 Volts

The following listed integral-horsepower gear-motors are for Class I service, which in accordance with recommendations of the American Gear Manufacturers' Association, is for steady loads not exceeding the normal rating of the motor and eight hours service per day, or for moderate shock loads where the service is intermittent.

Hp Continuous	Nominal Full-load Speed, Rpm	*Gear-motor Frame No.	▲Book Price, Gear-motor Only			
			Horizontal			
			Open		Totally Enclosed, Nonventilated	
					Type K	
			Type K	Type B	Standard	Explosion-proof
2	780	224A936	$370	$574	$443	$495
	640	224A936	372	576	445	497
	520	224A936	376	580	450	502
	420	224A132	386	590	461	513
	350	224A132	396	600	472	524
	280	224A136	410	614	487	539
	230	224A136	428	632	507	559
	190	224A140	448	652	529	581
	155	224A140	466	670	549	601
	125	224A240	492	696	577	629
	100	224A240	520	724	608	660
	84	224A240	542	746	632	684
	68	224A240	572	776	665	717
	56	224A340	606	810	703	755
	45	224A340	640	844	740	792
	37	224A340	680	884	784	836
	30	224A344	730	934	839	891
	25	224A348	776	980	890	942
	20	224A348	838	1042	958	1010
	16.5	224A352	906	1110	1033	1085
	13.5	224A352	960	1164	1092	1144
3	780	225A936	$426	$696	$521	$573
	640	225A936	428	698	523	575
	520	225A936	434	704	530	582
	420	225A136	444	714	541	593
	350	225A136	456	726	554	606
	280	225A140	476	746	576	628
	230	225A140	494	764	596	648
	190	225A144	518	788	622	674
	155	225A144	544	814	651	703
	125	225A244	574	844	684	736
	100	225A244	608	878	721	773
	84	225A244	636	906	752	804
	68	225A244	674	944	794	846
	56	225A344	714	984	838	890
	45	225A344	762	1032	890	942
	37	225A344	812	1082	945	997
	30	225A348	866	1136	1005	1057
	25	225A352	924	1194	1069	1121
	20	225A352	1004	1274	1157	1209
	16.5	225A356	1076	1346	1236	1288
	13.5	225A356	1166	1436	1335	1387

* Type K explosion-proof motors will be furnished in motor Frames 204, 224, and 225 for 1, 1½, and 2 hp respectively, instead of in the frames shown.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

Table continued on following page

INTEGRAL-HORSEPOWER GEAR-MOTORS

AGMA CLASS I

Type K Tri-Clad—Normal-starting-torque—Squirrel-cage—2- and 3-phase—

60 Cycles—220, 440, or 550 Volts

Type B—Direct-current—Shunt-wound—115/230 Volts

The following listed integral-horsepower gear-motors are for Class I service, which in accordance with recommendations of the American Gear Manufacturers' Association, is for steady loads not exceeding the normal rating of the motor and eight hours service per day, or for moderate shock loads where the service is intermittent.

Hp Continuous	Nominal Full-load Speed, Rpm	*Gear-motor Frame No.	▲Book Price, Gear-motor Only			
			Horizontal			
			Open		Totally Enclosed, Nonventilated	
			Type K	Type B	Type K	
					Standard	Explosion-proof
5	780	254A940	$514	$1014	$628	$696
	640	254A940	518	1018	633	701
	520	254A940	530	1030	646	714
	420	254A140	544	1044	661	729
	350	254A140	558	1058	677	745
	280	254A144	580	1080	701	769
	230	254A144	606	1106	729	797
	190	254A148	636	1136	762	830
	155	254A148	668	1168	798	866
	125	254A248	706	1206	839	907
	100	254A248	748	1248	886	954
	84	254A248	784	1284	925	993
	68	254A248	834	1334	980	1048
	56	254A348	882	1382	1033	1101
	45	254A348	944	1444	1101	1169
	37	254A348	1006	1506	1169	1237
	30	254A352	1080	1580	1251	1319
	25	254A356	1152	1652	1330	1398
	20	254A356	1250	1750	1438	1506
	16.5	254A360	1342	1842	1539	1607
	13.5	254A360	1460	1960	1669	1737
					Totally Enclosed, Fan-cooled	
7½	780	284A944	$636	$1218	$790	$862
	640	284A944	642	1224	796	868
	520	284A944	654	1236	810	882
	420	284A144	670	1252	827	899
	350	284A144	690	1272	849	921
	280	284A148	716	1298	878	950
	230	284A148	748	1330	913	985
	190	284A152	786	1368	955	1027
	155	284A152	824	1406	997	1069
	125	284A252	868	1450	1045	1117
	100	284A252	924	1506	1107	1179
	84	284A252	966	1548	1153	1225
	68	284A252	1028	1610	1221	1293
	56	284A352	1090	1672	1289	1361
	45	284A352	1166	1748	1373	1445
	37	284A352	1246	1828	1461	1533
	30	284A356	1336	1918	1560	1632
	25	284A360	1424	2006	1657	1729
	20	284A360	1546	2128	1791	1863
	16.5	284A364	1656	2238	1912	1984
	13.5	284A364	1806	2388	2077	2149

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E INTEGRAL-HORSEPOWER GEAR-MOTORS

AGMA CLASS I

Type K Tri-Clad—Normal-starting-torque—Squirrel-cage—2- and 3-phase 60 Cycles—220, 440, or 550 Volts

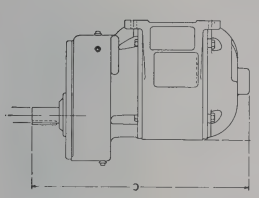
Type CD—Direct-current—Shunt-wound—115 and 230 Volts

The following listed integral-horsepower gear-motors are for Class I service, which in accordance with recommendations of the American Gear Manufacturers Association, is for steady loads not exceeding the normal rating of the motor and eight hours service per day, or for moderate shock loads where the service is intermittent.

Hp Continuous	Nominal Full-load Speed, Rpm	Gear-motor Frame No.	▲Book Price, Gear-motor Only			
			Open		Totally Enclosed Fan-cooled	
					Type K	
			Type K	Type CD	Standard	Explosion-proof
10	780	324A948	$764	$1443	$967	$1059
	640	324A948	768	1448	972	1064
	520	324A948	786	1467	991	1083
	420	324A148	804	1487	1011	1103
	350	324A148	828	1514	1038	1130
	280	324A152	864	1553	1077	1169
	230	324A152	898	1591	1115	1207
	190	324A156	940	1637	1161	1253
	155	324A156	986	1687	1211	1303
	125	324A256	1042	1749	1273	1365
	100	324A256	1104	1817	1341	1433
	84	324A256	1158	1877	1401	1493
	68	324A256	1230	1956	1480	1572
	56	324A356	1302	2035	1559	1651
	45	324A356	1394	2136	1660	1752
	37	324A356	1484	2235	1759	1851
	30	324A360	1592	2354	1878	1970
	25	324A364	1702	2475	1999	2091
	20	324A364	1848	2636	2160	2252
	16.5	324A368	1988	2790	2314	2406
	13.5	324A368	2156	2974	2498	2590
15	780	326A948	$902	$1734	$1112	$1204
	640	326A948	914	1747	1125	1217
	520	326A948	930	1765	1143	1235
	420	326A152	956	1793	1171	1263
	350	326A152	980	1820	1198	1290
	280	326A156	1022	1866	1244	1336
	230	326A156	1066	1914	1292	1384
	190	326A160	1120	1974	1352	1444
	155	326A160	1176	2035	1413	1505
	125	326A260	1249	2110	1488	1580
	100	326A260	1320	2194	1572	1664
	84	326A260	1388	2269	1647	1739
	68	326A260	1476	2365	1743	1835
	56	326A360	1564	2462	1840	1932
	45	326A360	1680	2590	1968	2060
	37	326A360	1790	2711	2089	2181
	30	326A364	1922	2856	2234	2326
	25	326A368	2054	3001	2379	2471
	20	326A368	2230	3195	2573	2665
	16.5	326A372	2502	3494	2872	2964
	13.5	326A372	2628	3633	3011	3103

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E INTEGRAL-HORSEPOWER GEAR-MOTORS



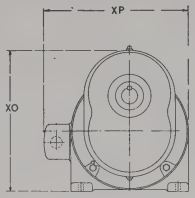
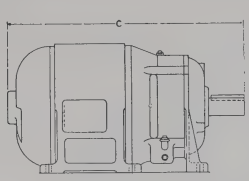


Fig. 1



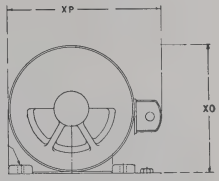


Fig. 3

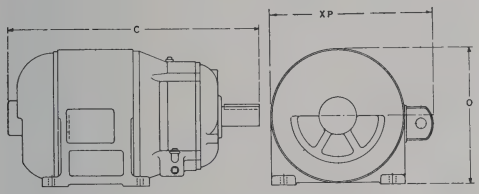


Fig. 2

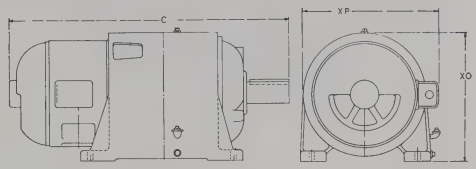


Fig. 4

Dimensions and Weights

Frame No.		Fig. No.	Open Gear-motors				Totally Enclosed Gear-motors			
Class I	Class II		Weight in Lb. (Approx)	Dimensions in Inches C	XO	XP	Weight in Lb. (Approx)	Dimensions in Inches C	XO	XP
203A928	203B928	1	110	17	11 3/8	11 15/16				
203A128	203B128	2	95	16 7/16	9 27/32	11 15/16				
203A132	203B132	4	130	18 1/8	9 3/4	12 1/16				
	203B136	4	130	18 1/2	9 3/4	12 1/16				
203A232	203B232	4	135	19 1/4	9 3/4	12 1/16				
	203B236	4	140	19 3/4	9 3/4	12 1/16				
203A336	203B336	4	165	21 1/2	9 7/16	12 1/16				
203A340	203B340	4	185	22 3/4	10 3/8	12 9/16				
203A344	203B344	4	220	23 3/4	10 7/8	12 9/16				
	203B348	4	255	25 1/16	12	13 5/16				
204A928	204B928	1	115	18	11 3/8	11 15/16	120	17 13/16	11 3/8	13 5/16
204A128		2	100	17 7/16	9 27/32	11 15/16	110	17 1/4	9 25/32	13 5/16
204A132	204B132	4					145	18 15/16	9 3/4	13 5/16
		2	110	18 1/4	9 27/32	11 15/16	204	18 1/16	9 25/32	13 5/16
204A136	204B136	4	135	19 1/2	9 3/4	12 1/16	145	19 5/16	9 3/4	13 5/16
	204B140	4	170	20 1/4	10 1/2	12 9/16	180	20 1/16	10 1/2	13 13/16
204A236	204B236	4	145	20 3/4	9 3/4	12 1/16	155	20 9/16	9 3/4	13 5/16
	204B240	4	180	21 5/8	10 1/2	12 9/16	190	21 7/16	10 1/2	13 13/16
204A336	204B336	4	170	22 1/2	9 7/16	12 1/16	180	22 5/16	9 7/16	13 5/16
204A340	204B340	4	190	23 3/4	10 3/8	12 9/16	210	23 9/16	10 3/8	13 13/16
204A344	204B344	4	225	24 3/4	10 7/8	12 9/16	240	24 9/16	10 7/8	13 13/16
204A348	204B348	4	260	26 1/16	12	13 5/16	280	25 7/16	12	14 9/16
	204B352	4	325	27 5/8	13 3/16	13 15/16	325	27 5/8	13 3/16	13 15/16
224A936	224B936	1	165	19 1/4	12 7/8	13 1/4	160	19 1/16	12 7/8	14 9/16
224A132		2	135	18 15/16	11 1/16	13 1/4	140	18 3/4	11	14 9/16
224A136	224B136	3	145	19 1/2	11 1/16	13 1/4				
		2	145	19 1/2	11 1/16	13 1/4	145	19 5/16	11	14 9/16
224A140	224B140	4	190	22 5/16	10 15/16	13 1/4	195	22 1/8	10 15/16	14 9/16
	224B144	4	215	22 11/16	10 15/16	13 1/4	220	22 1/2	10 15/16	14 9/16
224A240	224B240	4	200	23 11/16	10 15/16	13 1/4	205	23 1/2	10 15/16	14 9/16
	224B244	4	235	24 3/16	10 15/16	13 1/4	240	24	10 15/16	14 9/16
224A340	224B340	4	220	24 7/16	10 7/8	13 1/4	210	23 9/16	10 3/8	13 13/16
224A344	224B344	4	250	25 7/16	10 7/8	13 1/4	260	25 1/4	10 7/8	13 13/16
224A348	224B348	4	285	26 3/4	12	14	300	26 9/16	12	14 9/16
224A352	224B352	4	350	28 1/8	13 3/16	14 5/8	360	27 15/16	13 3/16	15 15/16

G-E INTEGRAL-HORSEPOWER GEAR-MOTORS

Frame No.		Fig. No.	Open Gear-motors				Totally Enclosed Gear-motors			
			Weight in Lb. (Approx)	Dimensions in Inches			Weight in Lb. (Approx)	Dimensions in Inches		
Class I	Class II			C	XO	XP		C	XO	XP
	224B356	4	430	29 5/8	14 7/8	15 1/2	440	29 7/16	14 7/8	16 13/16
225A936	225B936	1	175	20	12 7/8	13 1/4	210	22 3/4	12 7/8	14 7/8
225A136		2	145	20 1/4	11 1/16	13 1/4	195	23	11	14 7/8
		4					250	25 13/16	10 15/16	14 7/8
225A140	225B140	2	155	21 3/16	11 1/16	13 1/4	205	23 15/16	11	14 7/8
225A144	225B144	4	225	23 7/16	10 15/16	13 1/4	270	26 3/16	10 5/16	14 7/8
	225B148	4	270	24 1/2	12 1/8	14	320	27 1/4	12 1/8	15 5/8
225A244	225B244	4	245	24 15/16	10 15/16	13 1/4	290	27 11/16	10 5/16	14 7/8
	225B248	4	290	26 3/8	12 1/8	14	335	29 1/8	12 1/8	15 5/8
225A344	225B344	4	260	26 5/16	10 7/8	13 1/4	260	25 1/4	10 7/8	14 9/16
225A348	225B348	4	295	27 1/2	12	14	300	26 9/16	12	15 5/16
225A352	225B352	4	360	28 7/8	13 3/16	14 5/8	360	27 15/16	13 3/16	15 15/16
225A356	225B356	4	440	30 3/8	14 7/8	15 1/2	440	29 7/16	14 7/8	16 13/16
	225B360	4	560	32 1/16	15 5/8	15 5/8	610	34 13/16	15 5/8	17 1/4
254A940	254B940	1	225	22 3/8	14 7/8	15 5/16	280	25 5/16	14 7/8	16 3/16
254A140		2	200	23 1/16	12 9/16	15 3/16	260	26	12 15/32	16 3/16
		3	215	23 11/16	12 9/16	15 3/16	240	26 5/8	12 15/32	16 3/16
254A144	254B144	2	215	23 11/16	12 9/16	15 3/16	275	26 5/8	12 15/32	16 3/16
254A148	254B148	4	300	26 3/4	13 1/4	15 13/16	360	29 11/16	13 1/4	16 15/16
	254B152	4	350	27 3/8	13 1/4	15 13/16	410	30 5/16	13 1/4	16 15/16
254A248	254B248	4	320	28 5/8	13 1/4	15 13/16	380	31 9/16	13 1/4	16 15/16
	254B252	4	390	29 5/8	13 1/4	15 13/16	450	32 9/16	13 1/4	16 15/16
254A348	254B348	4	375	29 3/8	12	15 3/16	390	32 5/16	12	16 5/16
254A352	254B352	4	425	30 3/4	13 3/16	15 13/16	460	33 11/16	13 3/16	16 15/16
254A356	254B356	4	475	32 1/4	14 7/8	16 11/16	510	35 3/16	14 7/8	17 13/16
254A360	254B360	4	575	33 15/16	15 5/8	16 13/16	630	36 7/8	15 5/8	17 15/16
	254B364	4	735	35 11/16	17 5/8	17 15/16	790	38 5/8	17 5/8	19 1/16
284A944	284B944	1	284	25 7/16	16 1/2	16 11/16	400	28 7/8	16 1/2	18 3/4
284A144		2	285	25 3/4	14 1/16	16 11/16	375	29 3/16	14	17 3/4
		3	300	26 3/4	14 1/16	16 11/16	330	30 3/16	14	17 3/4
284A148	284B148	2	300	26 3/4	14 1/16	16 11/16	330	30 3/16	14	17 3/4
284A152	284B152	4	405	29 3/8	14 15/16	17 7/16	500	32 13/16	14 15/16	18 5/8
	284B156	4	495	30 1/16	15	17 7/16	590	33 1/2	15	18 5/8
284A252	284B252	4	445	31 5/8	14 15/16	17 7/16	535	35 1/16	14 15/16	18 5/8
	284B256	4	540	32 9/16	15	17 7/16	630	36	15	18 5/8
284A352	284B352	4	495	32 13/16	13 3/16	16 9/16	520	36 1/4	13 3/16	17 3/4
284A356	284B356	4	550	34 5/16	14 7/8	17 1/16	570	37 3/4	14 7/8	18 5/8
284A360	284B360	4	650	36	15 5/8	17 9/16	690	39 7/16	15 5/8	18 3/4
284A364	284B364	4	810	37 3/4	17 5/8	18 11/16	850	41 3/16	17 5/8	19 7/8
	284B368	4	990	40 5/16	20	19 13/16	1050	43 3/4	20	21
324A948	324B948	1	415	28 7/8	18 1/2	18 5/8	530	32 3/16	18 1/2	19 1/4
324A148		2	375	28 13/16	15 7/8	19 9/16	470	32 1/8	15 3/4	19 1/4
		3	395	29 13/16	15 7/8	19 9/16	500	33 1/8	15 3/4	19 1/4
324A152	324B152	2	395	29 13/16	15 7/8	19 9/16	500	33 1/8	15 3/4	19 1/4
324A156	324B156	4	550	33 1/4	15 3/4	19 9/16	660	36 9/16	15 3/4	19 5/8
	324B160	4	630	33 7/8	15 3/4	19 9/16	740	37 3/16	15 3/4	19 5/8
324A256	324B256	4	595	35 3/4	15 3/4	19 9/16	700	39 1/16	15 3/4	19 5/8
	324B260	4	670	36 7/8	15 3/4	19 9/16	775	40 5/16	15 3/4	19 5/8
324A356	324B356	4	645	36 3/8	15 5/8	19 9/16	640	39 11/16	13 3/16	18 3/4
324A360	324B360	4	745	37 13/16	15 5/8	19 9/16	760	41 3/8	15 5/8	18 3/4
324A364	324B364	4	910	39 9/16	17 5/8	20 11/16	920	45 11/16	17 5/8	20 5/8
324A368	324B368	4	1095	42 1/8	20	21 13/16	1130	45 11/16	20	21 3/4
	324B372	4	1350	45 7/16	21 7/8	22 13/16	1380	49	21 7/8	22 3/4
326A948	326B948	1	445	30 3/8	18 1/2	19 5/8	600	34 3/16	18 1/2	19 1/4
326A152		2	425	31 5/16	15 7/8	19 5/8	570	35 1/8	15 3/4	19 1/4
326A160	326B160	4	660	35 3/8	17 3/4	19 9/16	810	39 3/16	15 3/4	19 1/2
	326B164	4	810	36 5/8	17 3/4	20 11/16	960	40 1/16	17 3/4	20 5/8
326A260	326B260	4	700	38 3/8	15 3/4	19 9/16	845	42 3/16	15 3/4	19 1/2
	326B264	4	875	39 7/8	17 3/4	20 11/16	1020	43 11/16	17 3/4	20 5/8
326A360	326B360	4	810	39 9/16	15 5/8	19 9/16	820	43 3/8	15 5/8	19 1/2
326A364	326B364	4	980	41 5/16	17 5/8	20 11/16	980	45 1/8	17 5/8	20 5/8
326A368	326B368	4	1160	43 7/8	20	21 13/16	1180	47 11/16	20	21 3/4
326A372	326B372	4	1415	47 3/16	21 7/8	22 13/16	1440	51	21 7/8	22 3/4
	326B376	4	2040	51 11/16	24 5/16	23 11/16	2120	55 1/2	24 5/16	23 5/8

G-E GENERAL-PURPOSE SYNCHRONOUS MOTORS

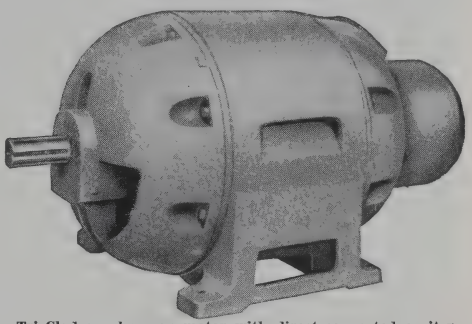
High-speed—Open (Dripproof)—Horizontal—Two-bearing

G-E general-purpose synchronous motors make complete, compact power units which simply require connection to an a-c power supply for operation. They are especially advantageous where (1) good power factor is desired, (2) where power-factor improvement is needed, (3) where high efficiency is sought (in the case of steady continuous loads of 75 hp and larger), or (4) where exact speeds must be maintained.

These motors have a mechanical simplicity comparable to that of squirrel-cage motors. Where direct-connected exciters are used, the exciter forms an integral part of the motor structure and saves both space and installation cost over other types.

Tri-Clad construction offers the benefits of smooth, contours, attractive appearance, and extra operating life. Cast-iron frame and end shields provide the best possible protection against physical damage.

G-E synchronous motors are particularly suited for driving centrifugal pumps, centrifugal compressors, belt-driven reciprocating compressor fans, blowers, line shafts, d-c generators, rubber and paper mills, and the like. Leading-power-factor motors are especially advantageous where other loads are of induction-motor and similar lagging-power-factor types.



Tri-Clad synchronous motor with direct-connected exciter

TYPES TS AND QS — 60 CYCLES, 2- AND 3-PHASE

1.0 Power Factor — 0.8 Power Factor

Hp Continuous 40C	Speed Rpm	Frame	▲Book Price Motor Only Sleeve-bearing 220, 440, 550 Volts	▲Book Price Motor Only Sleeve-bearing 2300 Volts	▲Book Price Addition Direct-Connected Exciter *	Exciter Size Kw	Hp Continuous 40C	Speed Rpm	Frame	▲Book Price Motor Only Sleeve-bearing 220, 440, 550 Volts	▲Book Price Motor Only Sleeve-bearing 2300 Volts	▲Book Price Addition Direct-Connected Exciter *	Exciter Size Kw
20	1200	934S	$1782	.....	$462	.75	.....	.....	.....	.....	.....	.....	.....
25	1200	934	1876	$1970	462	.75	20	1200	934	$1876	$1970	$522	1
30	1800	934S	3202	3362	400	.75	25	.....	.....	.....	.....	.....	.....
	1200	934	1958	2056	462	.75		1200	934	1958	2056	522	1
	900	944	2132	2238	802	1		900	944	2132	2238	888	1.5
40	1800	934S	3248	3410	400	.75	30	1800	934S	3248	3410	400	.75
	1200	935	2100	2206	522	1		1200	935	2100	2206	522	1
	900	944	2310	2426	802	1		900	944	2310	2426	888	1.5
	720	953	2740	2878	926	1		720	953	2470	2878	1012	1.5
50	1800	934S	3392	3562	400	.75	40	1800	934S	3392	3436	400	.75
	1200	944	2260	2374	522	1		1200	944	2260	2374	610	1.5
	900	945	2516	2642	802	1		900	945	2516	2642	888	1.5
	720	953	2944	3092	1012	1.5		720	953	2944	3092	1012	1.5
	600	954	3470	3644	1160	1.5		600	954	3470	3644	1274	2
60	1800	935S	3790	3980	400	.75	50	1800	935S	3790	3980	448	1
	1200	945	2568	2696	522	1		1200	945	2568	2696	610	1.5
	900	953	2838	2980	888	1.5		900	953	2838	2980	888	1.5
	720	954	3346	3514	1012	1.5		720	954	3346	3514	1132	2
	600	954	3886	4080	1160	1.5		600	955	3886	4080	1274	2
			220, 440, 550 or 2300 Volts							220, 440, 550 or 2300 Volts			
75	1800	944S	$4036		$400	.75	60	1800	944S	$4036		$448	1
	1200	945	2788		522	1		1200	945	2788		610	1.5
	900	954	3126		888	1.5		900	954	3126		1014	2
	720	955	3616		1012	1.5		720	955	3616		1132	2
	600	963	4224		1274	2		600	963	4224		1274	2
100	1800	945S	4448		448	1	75	1800	945S	4448		448	1
	1200	953S	3162		610	1.5		1200	953	3162		610	1.5
	900	954	3532		888	1.5		900	954	3532		1014	2
	720	963	4072		1012	1.5		720	963	4072		1132	2
	600	963	4662		1274	2		600	963	4662		1496	3
	514	964	5324		1448	2		514	964	5324		1786	3

*Price of direct-connected exciter includes suitable field rheostat.

▲This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.

Larger Sizes — Prices and Data on Application.

GENUINE G-E RENEWAL PARTS

Observe these few simple rules in ordering renewal parts, and you will save time, get the parts you need, and have your electric equipment back in first-class operating condition with little delay.

1. Give complete nameplate rating of apparatus requiring parts.
2. Give quantity of each part.
3. Give catalog number of each part, using the G-E renewal-parts catalog or bulletins.
4. Give exact description of each part.
5. When immediate delivery is essential, telephone your order to us. The part you need is probably carried in stock.

Catalog GEC-1001, illustrated here, will help you to order renewal parts quickly and correctly. If you don't have one, ask for a copy. It's free.

Motor Brushes

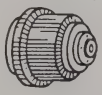
Motor Bearings and Oil Rings

Motor Centrifugal Mechanisms and Switches

Motor Collectors

Motor Brush Holders and Brush-holder Parts

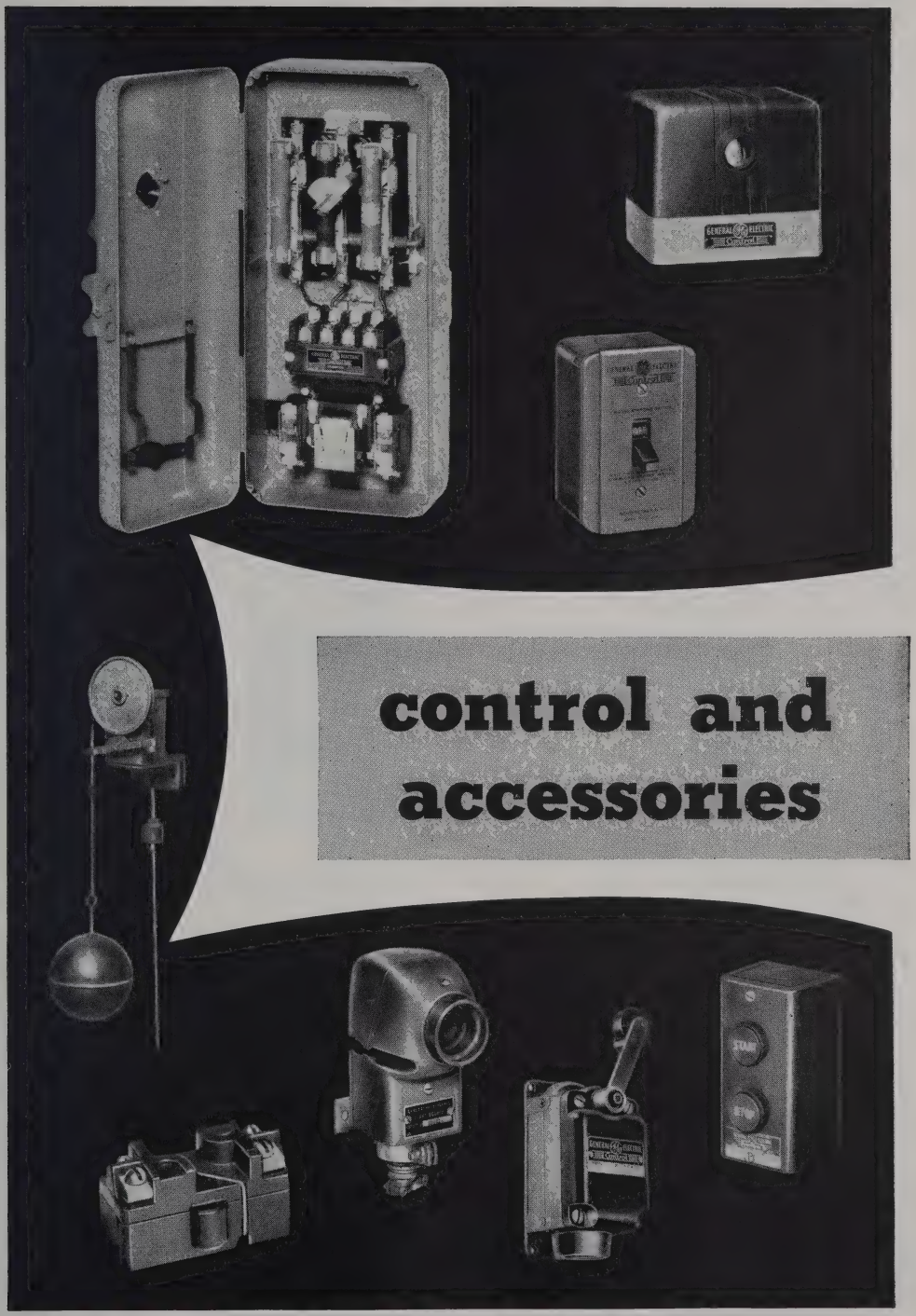
Motor Commutators and Segments



Control Contacts and Contact Parts

Control Coils

In addition to the items pictured, this catalog lists rubber mountings and capacitors for small G-E motors; parts for G-E industrial heating devices, street-lighting equipment, and floodlights, and gives data on supplies for G-E recording instruments, magnet wire, insulating materials, and testing instruments.


control and
accessories

G-E CR1061 MOTOR-STARTING SWITCHES

FOR FRACTIONAL-HP MOTORS—MANUALLY OPERATED

Maximum Ratings, A-c
60-25 Cycles
Single-pole and Double-pole, 1 Hp, 110 to 220 Volts

Maximum Ratings—D-c
Single-pole, ¾ Hp, 115 Volts
⅛ Hp, 230 Volts or
Double-pole, 1 Hp, 115 and 230 Volts

For surface or flush mounting

This small, compact, hand-operated starting switch incorporates positive overload protection. It is designed for use with fractional-horsepower motors. Order a switch by CR and Form number. Order a heater for overload device by catalog number selected from the table opposite.

No. of Poles	Form No. CR1061	▲ *Book Price Each	Approx. Ship. Wt., Lb	Approx. Dimensions, Inches High	Wide	Deep
Open Type—For Flush Mounting and Replacement in Enclosed Type						
1	H1A	**$5.80**	1	3 11/16	1 3/4	1 27/32
2	H2A	**6.60**	1	3 11/16	1 3/4	1 27/32
Enclosed—For Surface Wall Mounting						
1	H1A1	**6.90**	2	4 1/32	2 25/32	2 1/4
2	H2A1	**7.70**	2	4 1/32	2 25/32	2 1/4
Dust-tight and Weather-resisting						
1	H1A2	**23.10**	10	5 1/8	4	4 7/8
2	H2A2	**23.90**	10	5 1/8	4	4 7/8
Explosion-proof—For Class I, Group D, Hazardous Locations						
1	H1A3	**23.10**	11	6 3/4	3 1/2	5 9/16
2	H2A3	**23.90**	11	6 3/4	3 1/2	5 9/16
Combination Device—Includes HAND-OFF-AUTO Selector Switch						
2	G1A	**22.00**	3	4 7/8	4 13/16	2 17/64

* Prices include one overload-device heater which must be ordered separately. Heater may be omitted, or additional heaters may be ordered, at 80 cents each.

Heaters for Thermal Overload Devices

Interchangeable heaters are available for a variety of motor current ranges as shown in the accompanying table.

The table below gives the proper size heater to trip the switch on approximately 125 per cent motor current.

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

Listed values are for motors rated 40 C continuous. For motors rated 50 C or 55 C continuous, multiply full-load current of motor by 0.9 and use this value to select heater.

Full-load Motor Current, Amp	Heater Cat. No.	Heater Rating Stamp (Amp)	Full-load Motor Current, Amp	Heater Cat. No.	Heater Rating Stamp (Amp)
0.39–0.45	9700-5G	0.5	2.74– 3.14	9703-5G	3.5
0.46–0.54	9700-6G	0.6	3.15– 3.55	9704G	4.0
0.55–0.62	9700-7G	0.7	3.56– 3.99	9704-5G	4.5
0.63–0.76	9700-8G	0.8	4.00– 4.59	9705G	5.0
0.77–0.91	9701G	1.0	4.60– 5.45	9706G	6.0
0.92–1.14	9701-2G	1.2	5.46– 6.29	9707G	7.0
1.15–1.33	9701-5G	1.5	6.30– 7.14	9708G	8.0
1.34–1.55	9701-7G	1.7	7.15– 7.99	9709G	9.0
1.56–1.91	9702G	2.0	8.00– 9.24	9710G	10.0
1.92–2.29	9702-5G	2.5	9.25–10.99	9712G	12.0
2.30–2.73	9703G	3.0	11.00–12.50	9714G	14.0

G-E CR1062 MANUAL MOTOR-STARTING SWITCHES

FOR 1- to 7½-HP A-C MOTORS

600 Volts, Maximum, 60-25 Cycles, Single-phase and Three-phase

Push-button, Size 1, and toggle-operated, Size 0, manual motor starter for wall or machine mounting

General Electric now offers a whole new line of manual starters for application on blowers, grinders, pumps, farm machinery, laundry and textile applications, and small machine tools. Available in open and general-purpose enclosures for push-button or toggle operation in 2-, 3-, or 4-pole forms, Sizes 0 and 1. Toggle switches in the above forms are also available in cast-iron enclosures suitable for installation in moisture, dust-laden, and hazardous locations. A specially designed form for textile loom service is included in the line.

Bimetallic overload device and a wide range of heaters give accurate response to overloads and provide complete motor protection. When the relay trips, the toggle or push button assumes a neutral position, giving positive indication of overload trip.

Guards around push button and toggle prevent accidental operation. Holes in guards on toggle forms permit padlocking in ON or OFF position.

G-E CR1062 MANUAL MOTOR-STARTING SWITCHES—Continued

All general-purpose cases may be padlocked closed to prevent tampering.

Lift-off covers, retained by screws top and bottom, are provided to minimize space requirements. Combination knockouts conveniently located are provided. All starters conforms to NEMA ratings and have Underwriters' approval. Renewal parts are available for all sizes and forms.

CR1062 toggle-operated Size 1. Wall, machine, or pedestal mounting.

Maximum Horsepower Rating						Poles	▲ Book Price, Each	CR1062 Form No.	Approx Ship. Wt., Lb.	Approx Dimensions, Inches		
Single-phase			Polyphase							High	Wide	Deep
110 V	220 V	440 to 600 V	110 V	220 V	440 to 600 V							
Open Switches—Toggle-operated												
1	1½	1½				2	**$18.20**	M13A	4	5 7/16	3 9/16	3 7/8
			1½	2	2	3	**20.40**	M9A	4	5 7/16	3 9/16	3 7/8
			1½	2	2	4	**31.40**	M11A	4	5 7/16	3 9/16	3 7/8
1½	3	5				2	**23.10**	N13A	5	7 5/16	4 1/8	4 15/32
			3	5	7½	3	**25.30**	N9A	5	7 5/16	4 1/8	4 15/32
			3	5	7½	4	**36.30**	N11A	5	7 5/16	4 1/8	4 15/32
Open Switches—Push-button-operated												
1	1½	1½				2	**$18.20**	M12A	4	5 7/16	3 9/16	4 11/32
			1½	2	2	3	**20.40**	M8A	4	5 7/16	3 9/16	4 11/32
			1½	2	2	4	**31.40**	M10A	4	5 7/16	3 9/16	4 11/32
1½	3	5				2	**23.10**	N12A	5	7 5/16	4 1/8	4 7/8
			3	5	7½	3	**25.30**	N8A	5	7 5/16	4 1/8	4 7/8
			3	5	7½	4	**36.30**	N10A	5	7 5/16	4 1/8	4 7/8
Switches in General-purpose, Type 1 Cases—Toggle-operated												
1	1½	1½				2	**$19.80**	M5A	5	6 3/4	5	4 1/8
			1½	2	2	3	**22.00**	M1A	5	6 3/4	5	4 1/8
			1½	2	2	4	**33.00**	M3A	5	6 3/4	5	4 1/8
1½	3	5				2	**25.30**	N5A	6	9 3/4	5	4 7/8
			3	5	7½	3	**27.50**	N1A	6	9 3/4	5	4 7/8
			3	5	7½	4	**38.50**	N3A	6	9 3/4	5	4 7/8
Switches in General-purpose, Type 1 Cases—Push-button-operated												
	1½	1½				2	**$19.80**	M6A	5	6 3/4	5	4 1/2
			1½	2	2	3	**22.00**	M2A	5	6 3/4	5	4 1/2
			1½	2	2	4	**33.00**	M4A	5	6 3/4	5	4 1/2
1½	3	5				2	**25.30**	N6A	6	9 3/4	5	7 3/8
			3	5	7½	3	**27.50**	N2A	6	9 3/4	5	7 3/8
			3	5	7½	4	**38.50**	N4A	6	9 3/4	5	7 3/8
Switches in Watertight and Dust-tight, Type 3, 4, or 5 Cases												
1	1½	1½				2	**$51.70**	M16A	35	11 3/8	7 5/8	5 1/2
			1½	2	2	3	**53.90**	M14A	35	11 3/8	7 5/8	5 1/2
			1½	2	2	4	**64.00**	M15A	35	11 3/8	7 5/8	5 1/2
1½	3	5				2	**64.00**	N16A	36	11 3/8	7 5/8	5 1/2
			3	5	7½	3	**66.00**	N14A	36	11 3/8	7 5/8	5 1/2
			3	5	7½	4	**78.00**	N15A	36	11 3/8	7 5/8	5 1/2
Switches in Explosion-proof, Class I, Group D, Type 7 and Class II, Group G, Type 9 Cases												
1	1½	1½				2	**$66.00**	M19A	35	11 3/8	7 5/8	5 1/2
			1½	2	2	3	**68.00**	M17A	35	11 3/8	7 5/8	5 1/2
			1½	2	2	4	**80.00**	M18A	35	11 3/8	7 5/8	5 1/2
1½	3	5				2	**78.00**	N19A	36	11 3/8	7 5/8	5 1/2
			3	5	7½	3	**80.00**	N17A	36	11 3/8	7 5/8	5 1/2
			3	5	7½	4	**90.00**	N18A	36	11 3/8	7 5/8	5 1/2

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

Heater Selection*

Heater Cat. No. for General Use	FULL-LOAD MOTOR CURRENT, AMP	
	2-pole Forms	3- and 4-pole Forms
Size 0, CR1062-M and size 1, CR1062-N		
81D228	0.35– 0.38	0 34– 0.36
81D224	0.39– 0.43	0.37 0.39
81D225	0.44– 0.46	0.40– 0.43
81D230	0.47– 0.50	0.44– 0.48
81D525	0.51– 0.57	0.49– 0.53
81D231	0.58– 0.63	0.54– 0.59
81D526	0.64– 0.70	0.60– 0.65
81D527	0.71– 0.76	0.66– 0.71
81D233	0.77– 0.83	0.72– 0.78
81D528	0.84– 0.92	0.79– 0.88
81D235	0.93– 1.06	0.89– 1.00
81D529	1.07– 1.12	1.01– 1.06
81D530	1.13– 1.24	1.07– 1.17
81D531	1.25– 1.36	1.18– 1.29
81D238	1.37– 1.52	1.30– 1.43
81D532	1.53– 1.66	1.44– 1.60
81D533	1.67– 1.84	1.61– 1.74
81D534	1.85– 2.02	1.75– 1.91
81D535	2.03– 2.20	1.92– 2.08
81D536	2.21– 2.42	2.09– 2.28
81D537	2.43– 2.68	2.29– 2.52
81D538	2.69– 2.96	2.53– 2.79
81D539	2.97– 3.24	2.80– 3.05
81D540	3.25– 3.53	3.06– 3.32
81D541	3.54– 3.86	3.33– 3.64
81D542	3.87– 4.25	3.65– 4.00
81D543	4.26– 4.65	4.01– 4.39
81D544	4.66– 5.12	4.40– 4.85
81D545	5.13– 5.61	4.86– 5.30
81D546	5.62– 6.15	5.31– 5.80
81D547	6.16– 6.76	5.81– 6.44
81D548	6.77– 7.43	6.45– 7.00
81D549	7.44– 8.13	7.01– 7.65
81D550	8.14– 8.98	7.66– 8.40
81D551	8.99– 9.73	8.41– 9.20
81D552	9.74–10.72	9.21–10.19
81D553	10.8 –11.7	10.20–11.04
81D554	11.8 –12.9	11.05–12.19
81D555	13.0 –14.1	12.20 13.29
81D556	14.2 –15.4	13.30–14.44
81D557	15.5 –16.7	14.45–15.84
Size 1, CR1062-N Only		
81D267	16.8 –18.3	15.85–17.14
81D256	18.4 –19.8	17.15–18.69
81D558	19.9 –21.6	18.70–20.20
81D559	21.7 –22.2	20.21–21.70

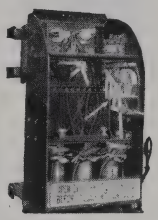
* Listed values are for motors rated 40 C continuous. For motors rated 50 C or 55 C continuous, multiply full-load current of motor by 0.9 and use value to select heater.

G-E CR1034 A-C REDUCED-VOLTAGE MANUAL STARTERS

FOR SQUIRREL-CAGE INDUCTION MOTORS

220-2200 Volts **5-200 Hp** **3-phase—3-wire**
60-50 Cycles **2-phase—3-wire**

CR1034-K1 low-voltage starter with ammeter attachment



A typical CR1034 starter

These starters are suitable for two- and three-phase motors, driving pumps, conveyors, compressors, blowers, or for other applications where reduced-voltage starting torques and currents are satisfactory for the load and power requirements. They afford high-torque efficiency, flexibility, protection to operator, protection to motor and driven machine, and time-delay undervoltage protection.

Each starter includes an autotransformer provided with several sets of starting taps, which facilitates adjustment of the motor starting torque and current to suit the particular load conditions. An autotransformer, switching device, instantaneous undervoltage device, and a hand-reset overload relay are all self-contained within a sheet-metal enclosure.

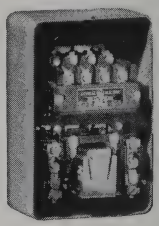
When ordering, specify CR and Form number, giving the complete motor rating, including horsepower, voltage, phase, and frequency. Order ammeter attachment, if desired. Book price, $198.

Motor Rating 60 and 50 Cycles		Form No.	Size	▲Starter Inc. Relay, ▲Book Price, Each
Hp	Volts			
5–10	220, 440, 550	K1	1	**$310**
15	220, 440, 550	K1	1	**310**
20	220, 440, 550	K1	1	**324**
20	2200	F1A	..	**1238**
25	220, 440, 550	K1	1	**324**
25	2200	F1A	..	**1284**
30	220, 440, 550	K1	1	**336**
30	2200	F1A	..	**1284**
40	220	K1	2	**570**
40	440, 550	K1	1	**354**
40	2200	F1A	..	**1300**
50	220	K1	2	**588**
50	440, 550	K1	1	**354**
50	2200	F1A	..	**1300**
60	220, 440, 550	K1	2	**610**
60	2200	F1A	..	**1346**
75	220, 440, 550	K1	2	**632**
75	2200	F1A	..	**1346**
100	220	K33	3	**860**
100	440, 550	K1	2	**632**
100	2200	F1A	..	**1370**
125	220	K33	3	**902**
125	440, 550	K1	2	**686**
125	2200	F1A	..	**1388**
150	220	K22	4	**2354**
150	440, 550	K1	2	**686**
150	2200	F1A	..	**1410**
200	440, 550	K33	3	**940**
200	2200	F1A	..	**1450**

G-E CR7006 A-C MAGNETIC STARTERS

FOR CONNECTING SINGLE-, 2-, OR 3-PHASE INDUCTION MOTORS DIRECTLY ON THE LINE

Undervoltage Protection
Thermal Overload Protection
1-100 Hp for 440 Volts, 60-25 Cycles



CR7006, Size 0, with cover removed

The CR7006 magnetic motor starter is used for full voltage starting of squirrel cage induction motors. These starters consist of a 2- or 3-pole magnetically operated contactor with overload relays, mounted on a base and enclosed in a suitable case. Provide undervoltage protection or release. May be operated by means of a push-button station, float switch, or other pilot device.

Prices will be quoted on request for starters with push buttons mounted in cover.

Order by CR number and specify rating of motor with which to be used and heater units required for overload protection.

Max. Hp, 2- and 3-phase					▲Book Price			
						Enlosed		
110 V	208/220 V	440 V	NEMA Size	No. Poles	Open	Type I general-purpose	Type IV water-tight	Type V dust-tight
*1	1½	1½	0	2	**$30.30**	**$33.00**	**$68.00**	**$68.00**
1½	2	2	0	3	**35.80**	**38.50**	**74.00**	**74.00**
*1½	3	5	1	2	**35.80**	**38.50**	**74.00**	**74.00**
3	5	7½	1	3	**41.30**	**44.00**	**80.00**	**80.00**
*3	7½	10	2	3	**74.00**	**84.00**	**156.00**	**128.00**
7½	15	25						
*7½	15	25	3	3	**118.00**	**138.00**	**240.00**	**190.00**
15	30	50						
25	50	100	4	3	**266.00**	**308.00**	**482.00**	**394.00**

*Single-phase rating.

Note: 1. All starters listed above are for separate push-button connection. Price does not include push button station.

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E A-C CONTACTORS AND SWITCHES

CR2810-CR2811, SIZE 00

1-hp, 600 Volts Max. Single or Polyphase

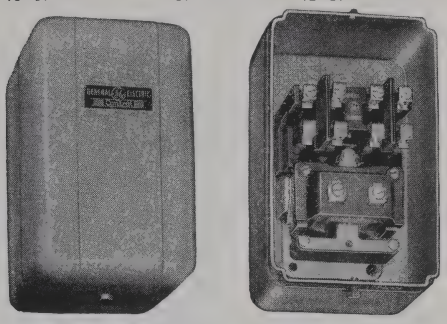
60-25 Cycles, A-c, D-c

*A-c 8-hr amp rating { Open-type contactors, 10 amp
Enclosed magnetic switches, 9 amp
Lamp load, 5 amp (For fluorescent lamps, it is not necessary to elevate contactors.)

HORSEPOWER RATING

Single-phase	Polyphase	Direct-current (three poles in series)
½ hp, 115 volts	¾ hp, 110 volts	
¾ hp, 230 volts	1 hp, 220-600 volts	½ hp, 125-250 volts

CR2811 switches, size 00—8-pole forms in Type 1 Cases



CR2811 switches, size 00—4-pole forms in Type 1 Cases

Suitable for handling small single-phase and polyphase a-c motors, or for use as flexible relaying devices for comprehensive control systems, such as are used on machine tools. No overload protection provided.

†No. of Main Poles			CR2810 MAGNETIC CONTACTORS Open Type			CR2811 MAGNETIC SWITCHES Enclosed, Type 1 Case		
Total	Normally Open	Normally Closed	CR2810A11 Form	▲Book Price Each	Approx Ship. Wt in Lb	CR2811 Form	▲Book Price Each	Approx Ship. Wt in Lb
2	2	0	AA	$16.50	3	A100A	$19.30	6
2	1	1	AH	20.60	3	A100B	23.30	6
2	0	2	AR	20.60	3	A100C	23.30	6
3	3	0	AB	19.30	3	A101A	22.00	6
3	2	1	AJ	23.30	3	A101B	26.10	6
3	1	2	AS	23.30	3	A101C	26.10	6
3	0	3	BA	23.30	3	A101D	26.10	6
4	4	0	AC	22.00	3	A102A	24.80	6
4	3	1	AK	26.10	3	A102B	28.80	6
4	2	2	AT	26.10	3	A102C	28.80	6
4	1	3	BB	26.10	3	A102D	28.80	6
4	0	4	BG	26.10	3	A102E	28.80	6
5	5	0	AD	30.30	4	A103A	33.00	8
5	4	1	AL	34.30	4	A103B	37.10	8
5	3	2	AV	34.30	4	A103C	37.10	8
5	2	3	BC	34.30	4	A103D	37.10	8
5	1	4	BH	34.30	4	A103E	37.10	8
5	0	5	BM	34.30	4	A103F	37.10	8
6	6	0	AE	33.00	4	A104A	37.10	8
6	5	1	AM	37.10	4	A104B	39.80	8
6	4	2	AW	37.10	4	A104C	39.80	8
6	3	3	BD	37.10	4	A104D	39.80	8
6	2	4	BJ	37.10	4	A104E	39.80	8
6	1	5	BN	37.10	4	A104F	39.80	8
6	0	6	BS	37.10	4	A104G	39.80	8
7	7	0	AF	35.80	4	A105A	38.50	8
7	6	1	AN	39.80	4	A105B	42.60	8
7	5	2	AX	39.80	4	A105C	42.60	8
7	4	3	BE	39.80	4	A105D	42.60	8
7	3	4	BK	39.80	4	A105E	42.60	8
7	2	5	BP	39.80	4	A105F	42.60	8
7	1	6	BT	39.80	4	A105G	42.60	8
7	0	7	BW	39.80	4	A105H	42.60	8
8	8	0	AG	38.50	4	A106A	41.30	8
8	7	1	AP	42.60	4	A106B	45.30	8
8	6	2	AY	42.60	4	A106C	45.30	8
8	5	3	BF	42.60	4	A106D	45.30	8
8	4	4	BL	42.60	4	A106E	45.30	8
8	3	5	BR	42.60	4	A106F	45.30	8
8	2	6	BV	42.60	4	A106G	45.30	8
8	1	7	BX	42.60	4	A106H	45.30	8
8	0	8	BY	42.60	4	A106J	45.30	8

*For d-c ampere rating, refer to your distributor.

†Main poles are used as electrical interlocks. If electrical interlocks are required, order a contactor having a total number of poles equal to the sum of poles and electrical interlocks required.

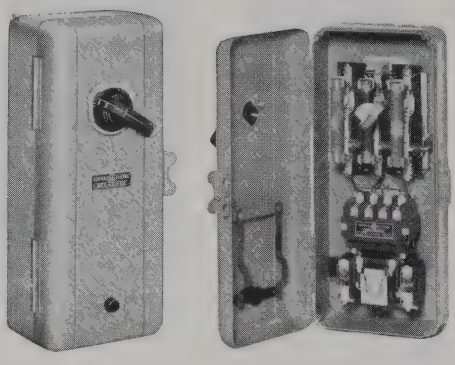
▲This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E Supplier.

G-E CR7008 A-C COMBINATION MAGNETIC STARTERS

FULL-VOLTAGE STARTERS FOR INDUCTION MOTORS

Fusible, Nonfusible, or Circuit Breaker—Undervoltage Protection or Release
Thermal Overload Protection

1½-100 Hp, for 440 Volts, 60-25 Cycles, 2- and 3-phase



Size 1 combination starter with fusible disconnect switch in general-purpose enclosure

This combination starter is available in three basic forms consisting of a full-voltage starter which is used in combination with a nonfusible disconnect switch, a fused disconnect switch, or a circuit breaker. Short-circuit protection is provided by the circuit breaker and fuse. Undervoltage protection or release may be obtained.

A simple and reliable equipment for starting a small a-c motor is provided by a CR7008 combination magnetic switch and a CR2940 momentary-contact START-STOP push-button station, limit switch, pressure governors, float switch, or other pilot device. The combination provides complete protection to both the motor and operator. The starter and pilot device are completely enclosed, which prevents accidental contact with any live parts.

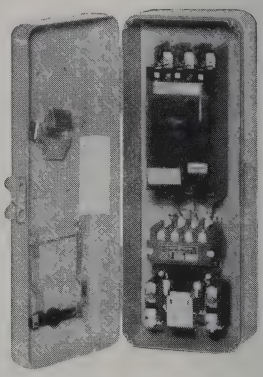
These starters are available in general-purpose, dust-tight, and water-tight cases, as well as in enclosures for hazardous locations. The doors of all starters can be padlocked closed, and the switch can be padlocked in either the open or closed position. Positive interlocking between the switch, or breaker operating handle, and the case, prevent opening of the door with the handle in the ON position, providing increased safety.

ADVANTAGES

Over-all Protection. For complete, all-round protection to a-c motors, select a G-E combination magnetic starter. Fused to open the circuit the instant a short-circuit occurs, these units protect motor, wiring, *and* the starter itself. In one compact low-cost unit, G-E combination starters give full protection where you need it most. Nonrenewable fuses give the tamperproof short-circuit protection that modern distribution demands—the magnetic starter and overload relays give the instant response you need for protecting the motor from overloads.

Protection of Personnel. The new rotary-action disconnect switch on the G-E combination starter makes it impossible to open the cover without opening the circuit. The rotary action is positive and easy.

Single-unit Control. The G-E combination magnetic starter saves space, speeds installation, because it's a single, compact unit that meets all National Electric Code requirements for circuit isolation and short-circuit protection. The combination starter provides complete protection to the equipment to which it is connected, and insures continuity of electric service to adjacent machines.



Size 1 combination starter with circuit breaker in general-purpose enclosure

G-E CR7008 COMBINATION MAGNETIC STARTERS—Continued

Max Hp, 3- and 2-phase			NEMA Size	*▲Book Price—Enclosing Case								
				Type I General-purpose			Type IV Watertight			Type V Dust-tight		
110 V	208/220 V	440 V		Not Fused	†Fusible	Circuit Breaker	Not Fused	†Fusible	Circuit Breaker	Not Fused	†Fusible	Circuit Breaker
1½	2		0	$ 74	$ 86	$100	$172	$182	$196	$114	$126	$138
		2	0	74	94	118	172	192	216	114	134	158
3	5		1	80	96	106	176	194	202	118	136	146
		7½	1	80	100	126	176	196	222	118	138	166
7½	15		2	138	196	200	288	346	350	190	246	250
		25	2	138	174	194	288	324	344	190	224	244
15	30		3	222	376	430	482	636	688	288	442	496
		50	3	222	288	304	482	548	564	288	354	370
25	50		4	452	580	634	782	910	964	658	788	840
		100	4	452	624	672	782	954	1002	658	832	878

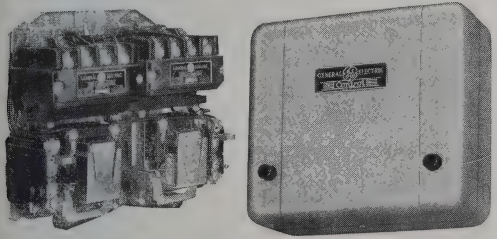
*Pilot device not included in above price and must be ordered separately.
†Price includes starter complete with fuse clips; fuses must be ordered separately.
Note: Order by CR number and specify fusible, nonfusible, or circuit breaker starter as well as complete motor rating.

G-E CR7009 A-C MAGNETIC REVERSING STARTERS

FULL-VOLTAGE REVERSING STARTERS FOR SQUIRREL-CAGE MOTORS, SINGLE-, 2-, OR 3-PHASE

Air-break—Undervoltage Protection and Thermal Overload Protection

For 440 Volts, 60-25 Cycles



Size 1 magnetic reversing switch with cover removed

G-E CR7009 magnetic starters are suitable for use with reversing motors which are connected directly across the line. Each starter consists of two mechanically interlocked, magnetically operated, three-pole contactors with overload relay. The starters may be controlled remotely through push-button station, limit switch, float switch, or other pilot device.

Undervoltage Protection or Release. These starters are ordinarily operated by a momentary-contact FORWARD-REVERSE-STOP push-button station. A normally open interlock is furnished on both the forward and reverse contactors of all starters to complete the holding interlock. Undervoltage release is provided when maintained-contact pilot device is used.

Overload Protection. Each starter is provided with a two-element hand- or automatic-reset thermal overload relay. These may be reset externally on Sizes 0 to 3; however, the cover must be opened to reset the relay on the Size 4 starter.

Enclosures. Sizes 0 to 3 starters are enclosed in wall-mounted cases; Size 4 starter is floor-mounted. Knockouts are conveniently located for conduit connections and for easy mounting.

Order by CR number and specify rating of motor to be used and heater units required for overload protection.

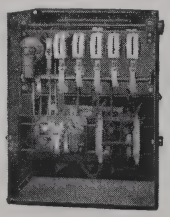
Max Hp			†NEMA Size	▲Book Price—Enclosing Case			
				Open	Type I General-purpose	Type IV Water-tight	Type V Dust-tight
110 V	208/220 V	440 V					
*1	1½	1½	0	$72	$74	$122	$106
1½	2	2					
*1½	3	5	1	84	88	152	122
3	5	7½					
*3	7½	10	2	150	166	270	206
7½	15	25					
*7½	15	25	3	240	270	424	336
15	30	50					
25	50	100	4	640	690	966	794

*Single-phase rating.
†All forms 3 pole.
Notes: 1. All starters listed above are for separate push-button connection. Price does not include push button.
2. Above starters Sizes 0 and 1 are also available in 2- and 4-pole forms.

G-E CR7051 A-C REDUCED-VOLTAGE MAGNETIC STARTERS

FOR SQUIRREL-CAGE INDUCTION MOTORS

2- or 3-phase, 3-wire, 60 Cycles



Size 1 starter

Provides remote control for constant-speed squirrel-cage induction motors on compressors, blowers, and any application that does not require longer than 15 seconds to attain full speed, once every 4 minutes for an hour.

Consists chiefly of an autotransformer for supplying reduced voltage to motor during acceleration, accelerating contactor which connects autotransformer to line and motor to low-voltage taps, line contactor, temperature overload relay, a definite-time relay which causes accelerating contactor to open and line contactor to close after a predetermined time.

G-E CR7051 A-C REDUCED-VOLTAGE MAGNETIC STARTERS—Continued

Motor Rating Hp	Volts	*Cat. No.	▲ Book Price, Each	Motor Rating Hp	Volts	*Cat. No.	▲ Book Price Each
Size 1—3-phase, 3-wire							
5	220	4386985G3	**$520.00**	20	440	4386985G7	**$570.00**
	440	4386985G4	**520.00**		550	4386985G8	**570.00**
	550	4386985G5	**520.00**	25	220	4386985G6	**610.00**
7½	220	4386985G3	**520.00**		440	4386985G7	**570.00**
	440	4386985G4	**520.00**		550	4386985G8	**570.00**
	550	4386985G5	**520.00**	30	220	4386985G9	**632.00**
10	220	4386985G3	**520.00**		440	4386985G10	**632.00**
	440	4386985G4	**520.00**		550	4386985G11	**632.00**
	550	4386985G5	**520.00**	40	440	4386985G12	**634.00**
15	220	4386985G3	**520.00**		550	4386985G13	**684.00**
	440	4386985G4	**520.00**	50	440	4386985G12	**684.00**
	550	4386985G5	**520.00**		550	4386985G13	**684.00**
20	220	4386985G6	**610.00**	....	.....	....	.....
Size 1—2-phase, 3-wire							
5	220	4386983G2	**$520.00**	20	440	4386983G6	**$570.00**
	440	4386983G3	**520.00**		550	4386983G7	**570.00**
	550	4386983G4	**520.00**	25	220	4386983G5	**610.00**
7½	220	4386983G2	**520.00**		440	4386983G6	**570.00**
	440	4386983G3	**520.00**		550	4386983G7	**570.00**
	550	4386983G4	**520.00**	30	220	4386983G8	**632.00**
10	220	4386983G2	**520.00**		440	4386983G9	**632.00**
	440	4386983G3	**520.00**		550	4386983G10	**632.00**
	550	4386983G4	**520.00**	40	440	4386983G11	**684.00**
15	220	4386983G2	**520.00**		550	4386983G12	**684.00**
	440	4386983G3	**520.00**	50	440	4386983G11	**684.00**
	550	4386983G4	**520.00**		550	4386983G12	**684.00**
20	220	4386983G5	**610.00**	....	..	....	.....

Ammeter attachment (includes ammeter)
Book price, each $198.00

* Cat. No. does not include relay heater units

G-E SYNCHRONOUS-MOTOR CONTROLLERS

The new standard G-E controllers are totally enclosed in NEMA Type 1, cabinet- type, floor-mounted enclosures. Smooth, powerful acceleration, precise synchronizing, reliable normal running, and instantaneous pull-out are offered with this new controller. Meters, push buttons, and rheostats (separately supplied) are mounted on the front door so that checking and adjustments are easily made. Components of new field circuits are a pretested unit assembly of heavy-duty devices. Built-in short-circuit protection is available on low voltage by addition of drawout air circuit breakers; on high voltage by use of limitamp equipment with current-limiting fuses. High-voltage, air-break, or oil-immersed contactors are available. High-voltage units include time-delay or instantaneous undervoltage protection.

CONTROLLERS (for Every Type of Application)

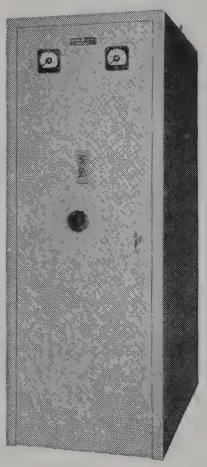
Full-voltage, CR7065, most compact of all forms. Available for both high or low voltage. Gives full starting torque.

Reduced-voltage autotransformer, CR7061, standard for 600 volts or less. On 3-phase systems, a three-legged autotransformer insures balanced currents resulting in maximum torque-ampere efficiency.

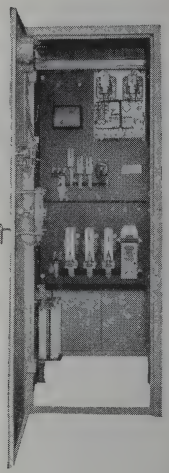
Semimagnetic, reduced-voltage autotransformer, CR7062 with manual starting compensator and field-control panel for wall mounting.

High - voltage, reduced - voltage with reactor, CR7073, standard for high-voltage, 2300-4160-volt controller. Compact design with space-saving dimensions at no sacrifice of safe electrical clearances.

Additional controllers for reduced-voltage are available. CR7063 with resistor, CR7067 for part-winding starting.



Door closed



Door open

G-E synchronous-motor, full-voltage magnetic starter, CR7065

Rating of Controller, Hp. Power Factor 1.0	0.8	Voltage Range	†Reduced-voltage Controller *Magnetic, CR7061, CR7073 ▲Book Price, Each	Panel No.	Semimagnetic, CR7062 ▲Book Price, Each	Pane No.	†Full-voltage Controller Magnetic, CR7065 ▲Book Price, Each	Panel No.
25	20	220	**$2744**	111	**$1762**	121	**$2102**	131
		440	**2582**	111	**1762**	121	**2034**	131
		550	**2582**	111	**1762**	121	**2034**	131
		2300	**5390**	512	.....	.....	**3300**	412
30	25	220	**2744**	111	**1762**	121	**2102**	131
		440	**2582**	111	**1762**	121	**2034**	132
		550	**2582**	111	**1762**	121	**2034**	131
		2300	**5390**	512	.....	.....	**3300**	412
40	30	220	**2788**	112	**1776**	123	**2102**	131
		440	**2788**	111	**1776**	121	**2102**	131
		550	**2788**	111	**1776**	121	**2102**	131
		2300	**5450**	512	.....	.....	**3300**	412
50	40	220	**3270**	112	**2033**	123	**2272**	132
		440	**2820**	111	**1796**	121	**2102**	131
		550	**2820**	111	**1796**	121	**2102**	131
		2300	**5484**	512	.....	.....	**3300**	412
60	50	220	**3270**	112	**2050**	123	**2272**	132
		440	**2810**	111	**1796**	121	**2102**	131
		550	**2810**	111	**1796**	121	**2102**	131
		2300	**5484**	512	.....	.....	**3300**	412
75	60	220	**3730**	114	**2074**	123	**2644**	134
		440	**3300**	112	**2074**	123	**2272**	132
		550	**3300**	112	**2074**	123	**2272**	132
		2300	**7376**	512	.....	.....	**3300**	412

*Magnetic—220 to 550 volts, CR7061.
2000 to 4160 volts, CR7073.
†For 60 and 50 cycles only, for 40 and 25 cycles, refer to your distributor

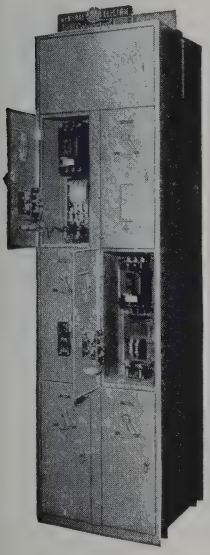
▲This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.

CABINETROL UNIT EQUIPMENTS

Cabinetrol is a dead-front unit control equipment which is completely assembled at the factory, so the purchaser needs only to make connections for his motor and control cables at the time of installation.

Each individual panel is completely co-ordinated to give proper short-circuit protection to bus, wiring, and all branch circuits. Thermal protection is provided for each individual motor circuit.

Cabinetrol cases are fabricated from special smooth 3/32-in. sheet steel. Construction is all-welded, outside joints are seam-welded and ground to a smooth finish. Standard finish is pearl-gray lacquer.



Each compartment has its own door and is segregated from the neighboring compartments by steel barriers. Doors are of the pan type with edges turned back 90 degrees and mounted on fully concealed hinges. Doors close into deep L-shaped flanges, providing a construction which effectively excludes dust. Each door is equipped with T-shaped operating handles and provided locks. An engraved *Textolite with key-operated cylinder nameplate on each door identifies each control unit.

Operating handles for motor-circuit switches and breakers, except incoming line breakers, are mounted on the compartment doors. Operating mechanisms for incoming-line breakers are inside of the door, to prevent unintentional shutdown of entire equipment. All operating mechanisms for motor starters are so interlocked that the door cannot be opened unless the handle is in the OPEN position. A locking bar is provided for all motor-starter operating mechanisms so that they can be padlocked in either the ON or OFF position. A reset button is provided in the door of each compartment for resetting the overload relay with the door closed.

All terminal boards are accessible through full-length rear doors whose handles have cylinder-type, key-operated locks.

Cabinetrol assemblies are provided with a 4-in. lifting angle to facilitate installation.

Cabinetrol can be arranged for throat connection to the source of power.

Starters can be furnished for synchronous, squirrel-cage, or wound-rotor motors requiring up to NEMA Size 6 contactors. Either reduced-voltage or full-voltage, reversing or nonreversing control units are available.

All devices, including starters, transformers, reactors, rheostats, resistors, meters, or instruments are wired, assembled, and tested at the factory. Push-button stations, selector switches, and indicating lights can be mounted on the doors of standard compartments. Dry-type transformers up to 7½ kva for control or lighting can be installed, if required.

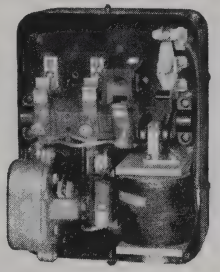
Cabinetrol is available in 24- or 40-inch-deep construction.

*Registered trade-mark of General Electric Co.

G-E CR4052 D-C DEFINITE-MECHANICAL-TIME STARTERS

CONSTANT SPEED—NONREVERSING—NONJOGGING—WITHOUT DYNAMIC BRAKING

Maximum Rating, 5 Hp, 115 Volts; 10 Hp, 230 Volts



Typical CR4052-A1P starter with cover removed

CR4052-A1P and -A2P nonreversing, nonjogging, general-purpose starters are designed for use with constant-speed d-c motors up to 5 hp, 115 volts, and 10 hp, 230 volts. They consist of a solenoid-operated multifinger contactor and a temperature overload relay (either hand or automatic reset), all mounted on a molded Textolite base on the back of which is mounted the Class 115 starting resistor. The multifinger contactor has a blowout and arc chute on the line contact to interrupt the arc quickly.

The starters can be applied, within their rating, to constant-speed motors up to and including 1800 rpm that do not require more than 150% full-load torque to start or longer than 10 seconds to attain full speed. Before using these starters on 3600-rpm motors, or on motors that require longer than 10 seconds to attain full speed, application engineering recommendations should be obtained. These starters provide isothermic overload protection, hand or automatic reset, and undervoltage protection or release, depending on the accessory used.

Supplied in NEMA Type 1 enclosing case.

Order by number and form, and specify motor with which starter is to be used. Order relay heater from table below.

Nonreversing, nonjogging push-button stations: CR2943NA-102A, Book price, $5.50.

115 AND 230 VOLTS

Hp	No. of Accelerating Points	CR4052 Form	▲ *Book Price	Approx. Ship. Lb Wt
½–3	3	A1P	**$128**	20
5	3	A2P	**232**	31
† 5	3	A1P	**142**	20
† 7½	3	A2P	**168**	31
†10	3	A2P	**232**	31

*Price includes relay heater, but no push-button station. Relay heaters may be omitted; or additional ones supplied, at $0.95 each.

†Available for 230 volts only.

Heaters for Thermal Overload Devices

Listed values are for motors rated 40 C continuous. For motors rated 50 C continuous, use heaters one size smaller than listed.

Full-load Current of Motor in Amp	Heater Cat. No.	Full-load Current of Motor in Amp	Heater Cat. No.	Full-load Current of Motor in Amp	Heater Cat. No.
0.32–0.35	81D228	1.51–1.71	81D240	9.0– 9.4	81D252
.36– .4	81D229	1.72–1.96	81D241	9.5–11	81D253
.41– .46	81D230	1.97–2.24	81D242	11.1–11.8	81D254
.47– .54	81D231	2.25–2.61	81D243	11.9–13.2	81D255
.55– .64	81D232	2.62– 3	81D244	13.3–15.3	81D265
.65– .73	81D233	3.1 – 3.4	81D245	15.4–16.9	81D267
.74– .83	81D234	3.5 – 3.9	81D246	17.0–19	81D256
.84– .93	81D235	4 – 4.5	81D247	19.1–22.2	81D257
.94–1.02	81D236	4.6 –5.3	81D248	22.3–26	81D258
1.03–1.15	81D237	5.4 –6.1	81D249	26.1–28.5	81D259
1.16–1.3	81D238	6.2 –6.8	81D264	28.6–33.1	81D260
1.31–1.5	81D239	6.9 –7.8	81D250	33.2–38.7	81D262
		7.9 –8.9	81D251	38.8–43.5	81D266

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E CR4061 D-C DEFINITE-MAGNETIC-TIME, HEAVY-DUTY STARTERS

REVERSING—NONREVERSING—JOGGING—FOR CONSTANT-SPEED MOTORS

Maximum Rating, 10 Hp, 115 Volts; 20 Hp, 230 Volts

Typical CR4061-A1C starter with cover removed

Typical CR4061-A1A, 1- to 3-hp definite-magnetic-time, heavy-duty starter

This line of starters is designed for motors up to and including 1800 rpm which do not drive a high-inertia load. The starting time for ratings up to 7½ hp is limited to six seconds, and for ratings from 7½ to 20 hp, to 10 seconds.

The line and reversing contactors of these starters are of the rocker-bearing type. The reversing starters employ double-throw contactors with holding coils on the lower, or normally closed, contacts; these coils are connected across the motor armature to provide positive dynamic braking.

The complete line of starters employs magnetic-time-delay contactors of the flux-delay type. They consist of a heavy frame with the armature pivoted on a knife-edge. No bearings or pins.

The resistor units are nonbreakable, consisting of a resistance wire wound on a flat steel body with mica insulation; the entire winding is embedded in ceramic material.

Order a starter by CR and Form numbers.

Order one relay heater from table on preceding page.

Nonreversing, without Dynamic Braking

▲ *†Book Price, Each	Form	Hp	No. of Accelerating Points	Approx Ship. Wt, Lb
		115 Volts		
$234.00	A1A	½–2	2	25
240.00	A1A	3	2	25
310.00	A1C	5	3	60
468.00	A1C	7½	3	60
482.00	A1C	10	3	60
.....	.....	.....	..	...
.....	.....	.....	..	...
		230 Volts		
$234.00	A1A	½–3	2	25
240.00	A1A	5	2	25
302.00	A1C	7½	3	60
310.00	A1C	10	3	60
454.00	A1C	15	3	60
468.00	A1C	20	3	60

*Prices available on request for nonreversing with dynamic braking, and reversing with dynamic braking.

† Price includes relay heater, but no push-button station. Relay heaters may be omitted, or additional ones supplied, at $1.70 each.

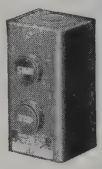
G-E CR2940 PUSH-BUTTON STATIONS

Typical 3-button station for front-of-panel or wall mounting

CR2940 push-button stations are for use in the control circuits of various magnetic controllers. The large contacts and substantial construction of these heavy-duty stations make them well able to withstand the frequent operation and rough usage of machine-tool and similar applications.

The stations listed are divided into three general classes: momentary-contact, maintaining-contact, and a combination of momentary and maintaining contacts. With a momentary contact, the circuit is completed or interrupted only as long as the operator's finger depresses the button. This feature is required when the station is used with a controller that must provide undervoltage protection. A maintaining contact holds the circuit open or closed.

Push-button stations come in two sizes: standard-duty, suitable for use with contactors up to and including 150 amperes, and heavy-duty, for use with any-size contactor.



CR2943-NA102A

General-purpose, Momentary-contact

Nomenclature	Nameplate Markings	Duty	▲ Book Price, Each
	Single Button		
CR2943–NA101A	Stop	Standard	**$5.50**
CR2943–NA101B	Start	Standard	**5.50**
CR2940–NA101B	Start	Heavy	**11.00**
CR2940–NA101A	Stop	Heavy	**11.00**
CR2940–AA101A*	Reset	Heavy	**11.00**
	Two Buttons		
CR2943–NA102B	Raise—Lower	Standard	**$6.80**
CR2943–NA102A	Start—Stop	Standard	**5.50**
CR2945–NA102E	Up—Down	Standard	**6.80**
CR2940–NA102A	Start—Stop	Heavy	**16.50**
CR2940–AA102A*	Raise—Lower	Heavy	**16.50**
CR2940–AA102M*	Up—Down	Heavy	**16.50**
	Three Buttons		
CR2943–NA103A	Forward—Reverse—Stop	Standard	**$16.50**
CR2943–NA103B	Open—Close—Stop	Standard	**16.50**
CR2940–NA103A	Forward—Reverse—Stop	Heavy	**22.00**

*Specify nameplate marking on order.

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E CR2940 PUSH BUTTONS—Continued

Nomenclature	Nameplate Markings	Duty	▲Book Price, Each
	Four Buttons		
CR2940–AA104A*	Forward—Jog Forward—Reverse—Stop	Heavy	$35.80
	Five Buttons		
CR2940–AA105A*	Forward—Jog Forward—Reverse—Jog—Reverse—Stop	Heavy	$44.00
	Maintaining-contact One Selector Switch		
CR2940–NA101E	Safe Stop—Run	Heavy	$13.80
CR2940–NA101C	Stop—Run	Heavy	13.80
CR2940–AA101E*	Fast—Slow	Heavy	13.80
CR2940–AA101E*	Creep—Normal	Heavy	16.40
CR2940–AA101D*	Open—Close	Heavy	13.80
CR2940–NA101F	Off—On	Heavy	13.80
CR2940–AA101D*	Stop—Start	Heavy	13.80
CR2940–AA101E*	Raise—Lower	Heavy	13.80

*Specify nameplate marking on order.

Stations for Special Applications

Nomenclature	Nameplate Markings	Duty	▲Book Price, Each
CR2943–NJ102A	Start—Stop (Watertight)	Heavy	$19.30
CR2940–NJ102A	Start—Stop (Watertight)	Standard	33.00

Typical watertight station, CR2943-NJ102A

G-E CR2931 ENCLOSED FLOAT SWITCHES

FOR A-C OR D-C MOTORS

Form D

Form P

Suitable for use in the control circuit of a-c or d-c automatic starters, and, except for the Form P, can directly handle the circuits of small motors.

These switches, as furnished, are arranged for tank operation, that is, the switch closes as the lower liquid level is reached, and opens as the top level is reached. This action can be easily changed for sump pump operation by interchanging the float and counterweight. Standard floats should not be subjected to pressure. Quotation on special floats will be furnished on request.

All switches are dripproof and splashproof, and are suitable for outdoor installation where they are not subjected to snow or sleet. Where the liquid whose level is to be controlled is subject to freezing, a float switch should not be used.

All switches are quick-acting when closing and opening, which insures minimum of arcing and burning of contacts.

Order by CR and Form numbers. Specify number poles of switches.

Form	No. of Poles	▲Book Price, Each	Description
A	D-p	°101.00	Rod-operated for clamping to inside top edge of tank; operated by rod and float; range, 10 in. to 5 ft.
A	4-p	°112.00	Same as Form A, 4-pole.
B	D-p	°108.00	Rod-operated for bolting to tank cover; requires guide in cover for operating rod; range 10 in. to 3½ ft.
B	4-p	°118.00	Same as Form B, 4-pole
C	D-p	°112.00	Rod-operated for bolting to tank cover; range, 10 in. to 3½ ft.
C	4-p	°124.00	Same as Form C, 4-pole.
D	D-p	*112.00	‡Chain-operated for bolting to tank cover; operated by chain and float; suitable for any depth of tank or any variation in water level not less than 10 in.
D	4-p	*124.00	‡Same as Form D, 4-pole.
L	D-p	*80.00	‡Chain-operated by chain and float; for any variation in water level not less than 5 in
M	D-p	°80.00	Rod-operated; range, 2½ in. to 4½ ft.
P	S-p	†44.00	§Operated by chain and float; for any variation in water level not less than 2 in.
AW	S-p	†50.60	Same as Form P, except with mercury-tube, heavy-duty "Konnectors."

* Price includes 15 feet of bronze chain. If more is required, add 40 cents for each additional foot.

† Price includes 15 feet of brass chain. If more is required, add 10 cents for each additional foot.

‡ To obtain maximum operating range: deduct 3½ ft from length of chain.

§ To obtain maximum operating range: deduct 1½ ft from length of chain.

° Two standard lengths (each 3 feet) of ⅜-in. brass rod are furnished. Additional 3-foot lengths can be furnished at $1.20 per length.

G-E CR2927 PRESSURE AND VACUUM SWITCHES

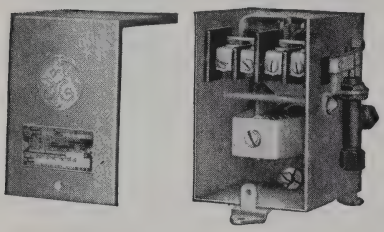
DIAPHRAGM TYPE—FOR STARTING SMALL MOTORS OR FOR PILOT-CIRCUIT CONTROL

Maximum Hp Ratings:

A-c, Polyphase:
2 Hp, 110 Volts; 5 Hp, 220-550 Volts

A-c, Single-phase:
1½ Hp, 110 Volts; 3 Hp, 220 Volts

D-c: ½ Hp, 115-550 Volts



Pressure switch (cover removed) with unloader valve and differential-adjusting attachment mounted in place

These switches are designed to open or close contacts upon changes of pressure or vacuum of any gas or liquid which will not affect synthetic-rubber or brass or steel parts.

When larger motors than above ratings are used, these switches can be used in connection with automatic starters which will also provide overload protection.

Order by CR number and Form No., and specify adjustment if other than factory adjustment is required.

Pressure Switches

Operation	▲ Book Price, Each	Nomenclature, CR-2927, Form	Max. Pressure, Lb per Sq In.	Factory Adjustment, Lb per Sq In.		Min. Adjustment, Lb per Sq In.		Max. Adjustment, Lb per Sq In.	
				Close	Open	Close	Open	Close	Open
	$								
*Standard	**46.20**	M14	5000	3200	4500	250	1300	3650	5000
	21.60	M 8	300	200	250	15	35	245	300
	18.50	M 9	160	130	150	8	23	140	160
	43.10	M10	80	70	80	4	12	70	80
	15.40	M29	80	52	70	8	23	62	80
	43.10	M11	40	36	40	2	5	36	40
	49.30	M13	13	9	10	½	1¼	12	13
	21.60	M15	300	250	200	35	15	300	245
†Reverse	**18.50**	M16	160	150	130	23	8	160	140
	43.10	M17	80	80	70	12	4	80	70
	43.10	M18	40	40	36	5	2	40	36
	49.30	M20	13	10	9	1¼	½	13	12

Vacuum Switches

Operation	▲ Book Price, Each	Nomenclature, CR-2927	Max. Vacuum, Inches of Mercury	Factory Adjustment, of Mercury, Inches		Min. Adjustment, of Mercury, Inches		Max. Adjustment, of Mercury, Inches	
				Close	Open	Close	Open	Close	Open
	$								
*Standard	**40.00**	M12	28	5⅔	8	1	3	25	28
†Reverse	**40.00**	M19	28	8	5⅔	3	1	28	25

* Standard operation: open at high vacuum, close(d) at low vacuum.
† Reverse operation: open at low vacuum, close(d) at high vacuum.

Attachments

Unloader, 2-way, Cat. No. 2244498G2..... **$6.20**
Differenital-adjusting attachment for standard-operation switch, Cat. No. 2246093G1..... **3.10**
Differenital-adjusting attachment for reverse-operation switch, Cat. No. 2246900G1..... **3.10**
Hand-operation lock-out lever, Cat. No. 2246094G1 ..... **4.60**

G-E CR9440 LEVER-TYPE LIMIT SWITCHES

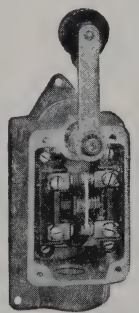
CR9440-J1C and J1D

The CR9440-J1C and J1D are sturdy, lever-operated limit switches enclosed in strong die-cast cases and molded phenolic covers. Their oilproof construction and single-pole, double-throw, double-break silver contacts of snap-action design make them very suitable for machine-tool and miscellaneous service.

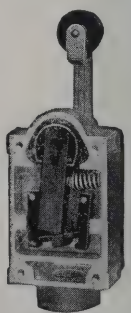
Complete operation of the switches is obtained by a 12-degree travel of the lever with an overtravel of 24 degrees in either the clockwise or counterclockwise directions of rotation.

As supplied by the factory, these switches are arranged for clockwise operation, looking at the cover side. The direction of operation can be reversed by removing the base plate and transferring the return spring to the opposite side of the swing bar.

J1C and J1D
Front view with cover on



J1C and J1D
Front view with cover off



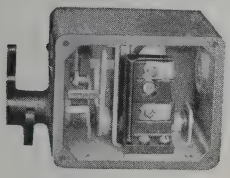
J1C and J1D
Back view with cover off

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

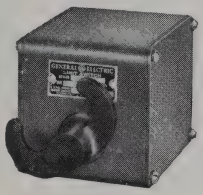
G-E CR9440 LEVER-TYPE LIMIT SWITCHES—Continued

CR9440-B1B

A heavy-duty, snap-action, single-pole, double-throw switch with two independent circuits. This limit switch should be used whenever a small, compact, heavy-duty reversing limit switch is required to open or close a control circuit and where maintained accuracy of operation is of primary importance. Its field of application includes tapping machines, threading machines, grinder tables, welding machines, and other reciprocating machines where a reversing limit switch is applicable.



Side plate removed to show mechanism



Closed

The contacts are double-break, and both stationary and movable tips are of fine silver to insure long life and dependable operation.

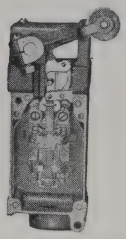
The movable contacts are held in either position by a small alnico magnet acting on an iron yoke. When the yoke is broken away from the magnet face, by direct mechanical action of the operating lever, a sturdy spring snaps the contact assembly to the opposite position, where it is held in by the same alnico magnet until the yoke is broken away in the opposite direction. For this reason, the operating point is determined entirely by the position of the operating lever and is independent of tension in the spring. This construction insures maintained accuracy of operation in spite of changes in spring tension caused by aging under repeated operation.

Switch is enclosed in an oiltight steel enclosing case with two gasketed side plates and an opening in the rear for ½-inch conduit connection. With the side plates removed, the terminals are easily accessible, and large working clearances make the switch easy to wire and install.

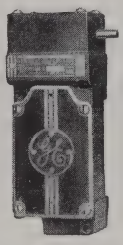
CR9440-D2

A lever-operated, push-rod-operated, or plunger-operated limit switch. All except the plunger-operated form have snap-action contacts. A variety of contact arrangements is available, which can be changed in the field from normally open to normally closed operation, or vice versa. The operating heads can be interchanged, or turned 180 degrees. Holes are provided for mounting the switch on either its back or its side. These features allow maximum flexibility in application.

The switches are available in both open and enclosed forms. The open switches are particularly adapted to built-in applications where space is limited. Frames and plungers are constructed of molded *Textolite. The contacts are solid silver and are designed to close with a rolling action. All switches are equipped with flag terminals to accommodate two wires on each terminal. The construction is extremely compact and flexible. The enclosed form has a die-cast case, and is provided with velumoid gaskets and grease seals at shaft journals to make the switch oilproof for machine-tool use.



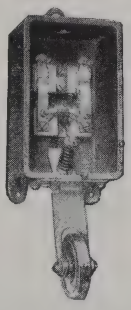
Roller-lever-operated, clockwise



Push-rod-operated, or spring-return ratchet-operated, or spring-return operating rod

Application extends to virtually any automatic equipment where a traverse motion must be converted into control of an electric circuit, particularly where the motion is slow and snap-action contacts are necessary to prevent burning of the contact tips.

CR9440-LS416



With cover removed

This hatchway-type limit switch is of lever construction, and is particularly for mounting in the hatch of an elevator. Although the switch is light and compact to facilitate mounting where space is limited, it is substantially built and is suitable for severe service. Only a small amount of pressure is needed to operate the roller lever. The Forms A, B, and C have a rubber-tired roller to eliminate noise.

The switch is obtainable with either one open, one closed, one open and one closed (with overlapping or nonoverlapping contacts), or two closed circuits. The various forms cannot be conveniently interchanged in the field.

*Registered trade-mark of General Electric Co.

G-E CR9440 LEVER-TYPE LIMIT SWITCHES

FOR MISCELLANEOUS AND MACHINE-TOOL SERVICE—TRACK-TYPE

Description	Nomenclature and Form of Switch CR9440-	▲ Book Price, Each	No. of Circuits		Contact Rating, Inductive Load Carrying and Breaking, Max. Amperes							Approx. Ship. Wt., Lb.	Development Fig.
					D-c Circuits			A-c Circuits					
			Norm Open	Norm Closed	115 Volts	230 Volts	550 Volts	110 Volts	220 Volts	440 Volts	550 Volts		
For Miscellaneous and Machine-tool Service—Track-type Roller Lever, Spring-return Operation													
Oilproof, Snap-action, CW or CCW Rotation, 2⅛-in. lever adjustable through 160°, ¾-in. Conduit	J1C	$22.00	†1	1	2.5	.8	.25	30	15	7	5	4	3
½-in. Conduit	J1D	$22.00	†1	1	2.5	.8	.25	30	15	7	5	4	3
Snap-action Silver Contacts; Oilproof Case; Clockwise Rotation	D2AA	$22.00	2	.....	1.5	.5	.15	30	15	7	5	3	1
	D2BA	$22.00	.....	2	1.5	.5	.15	30	15	7	5	3	2
	D2CA	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
	D2DA	$22.00	‡1	1	1.5	.5	.15	30	15	7	5	3	3
Snap-action Silver Contacts; Oilproof Case; Counterclockwise Rotation	D2AB	$22.00	2	.....	1.5	.5	.15	30	15	7	5	3	1
	D2BB	$22.00	.....	2	1.5	.5	.15	30	15	7	5	3	2
	D2CB	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
	D2DB	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
For Miscellaneous and Machine-tool Service—Track-type Reversing Motion, Maintained Contact													
Alnico Snap-action; Oilproof Case; Forked Lever (Offset), ½-in. Conduit	B1B	$30.30	†1	1	4.	1.2	.4	30	15	7	5	5	3
For Miscellaneous and Machine-tool Service—Track-type Plunger Operated													
Silver Contacts; Oilproof Spring Return, ¾-in. Conduit	D2AF	$13.80	2	.....	1.5	.5	.15	30	15	7	5	3	1
	D2BF	$13.80	.....	2	1.5	.5	.15	30	15	7	5	3	2
	D2CF	$13.80	†1	1	1.5	.5	.15	30	15	7	5	3	3
	D2DF	$13.80	†1	1	1.5	.5	.15	30	15	7	5	3	3
For Miscellaneous and Machine-tool Service—Track-type Push-rod Operated													
Snap-action Silver Contacts; Oilproof Case, ¾-in. Conduit; Maintained Contact	D2AC	$22.00	2	.....	1.5	.5	.15	30	15	7	5	3	1
	D2BC	$22.00	.....	2	1.5	.5	.15	30	15	7	5	3	2
	D2CC	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
	D2DC	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
Snap-action Silver Contacts; Oilproof Case, ¾-in. Conduit; Spring Return	D2AD	$22.00	2	.....	1.5	.5	.15	30	15	7	5	3	1
	D2BD	$22.00	.....	2	1.5	.5	.15	30	15	7	5	3	2
	D2CD	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
	D2DD	$22.00	†1	1	1.5	.5	.15	30	15	7	5	3	3
Hatchway, Elevator Service Roller Lever, Spring Return													
3-Inch Rubber-tired Roller (End) ⅞-in. hole for leads	LS416AW	$30.20	.....	1	5	1.5	.5	50	20	8	6	14	4
	LS416BA	33.00	.....	2	5	1.5	.5	50	20	8	6	14	2
	LS416BB	30.20	1	.....	5	1.5	.5	50	20	8	6	14	5
3-Inch Textolite Roller (End) ⅞-in. hole for leads	LS416E	33.00	.....	2	5	1.5	.5	50	20	8	6	14	2
	LS416AA	44.00	†1	1	5	1.5	.5	50	20	8	6	14	3
	LS416AB	44.00	‡1	1	5	1.5	.5	50	20	8	6	14	3

†Nonoverlapping contacts; one circuit is broken before the other is closed.
‡Overlapping contacts; one circuit is broken after the other is closed.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E CR9504 THRUSTORS

Provides Smooth Straight-line Thrust From Electric-motor Drive

This is a self-contained hydraulic device which exerts a smooth, straight-line thrust (50 to 3200 pounds maximum thrust) in one direction throughout a definite distance (2- and 16-inch maximum stroke). The return stroke is effected by gravity or a spring.

The device can repeat this cycle of operation at a rate of 10 to 30 times per minute, depending on the size of unit. It is driven by a built-in fractional-hp motor and, therefore, the power consumption is small.

The CR9504 Thrustor performs services similar to those accomplished by air cylinders and large a-c and d-c magnets and solenoids.

Order by CR number and form, giving voltage, frequency, and phase.

Volts	Phase	50 Cycles		60 Cycles	
		*Running Current, Amperes	▲Book Price, Each	*Running Current, Amperes	▲Book Price, Each
†CR9504-L—50 Lb Maximum—2-inch Stroke					
110	3	1.2	$450	0.92	$350
220	3	0.6	450	0.43	350
440	3	0.3	450	0.23	350
550	3	.....	‡	0.43	‡
110	1	1.8	250	1.8	250
220	1	0.9	250	0.9	250
†CR9504-V—100 Lb Maximum—2-inch Stroke					
110	3	0.66	$580	0.74	$580
220	3	0.33	580	0.37	580
440	3	0.17	580	0.18	580
550	3	0.14	580	0.14	580
110	1	.....	.....	1.2	580
220	1	.....	.....	0.6	580
†CR9504-N—200 Lb Maximum—4-inch Stroke					
110	3	1.6	$710	1.76	$710
220	3	0.8	710	0.88	710
440	3	0.4	710	0.44	710
550	3	0.32	710	0.35	710
110	1	.....	.....	3	800
220	1	.....	.....	1.5	800
†CR9504-T—400 Lb Maximum—4-inch Stroke					
110	3	1.8	$860	1.88	$860
220	3	0.9	860	0.94	860
440	3	0.45	860	0.47	860
550	3	0.36	860	0.39	860
110	1	.....	.....	3.8	860
220	1	.....	.....	1.9	860
†CR9504-M—600 Lb Maximum—6-inch Stroke					
110	3	2.6	$1050	2.9	$1050
220	3	1.3	1050	1.4	1050
440	3	0.7	1050	0.7	1050
550	3	0.48	1050	0.56	1050
110	1	.....	.....	5	1050
220	1	.....	.....	2.5	1050

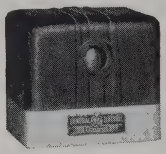
* Inrush current for a-c motors is approximately 5 times running current.

† Information on d-c and 25-cycle forms on application.

‡ Same as 220/440-volt, 3-phase Thrustors, plus additional price of transformer.

▲ *This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E PHOTOELECTRIC DEVICES



Typical CR7505-K100G3 general-purpose relay

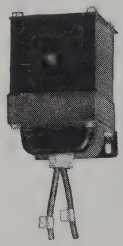
The CR7505-K100 photoelectric relay and accessories provide a complete line of inexpensive, but thoroughly reliable apparatus for general-purpose indoor photoelectric applications. Some of the possible applications are counting, diverting, controlling, signaling, limiting, and protecting.

The CR7505-K100G3 includes a double-pole, double-throw magnetic relay. The photoelectric-amplifier circuit consists of a GL-923 phototube, a GL-2051 thyratron tube, a transformer, a potentiometer, several small resistors and capacitors.

The relay will operate, without any lens in front of the phototube; on a minimum of 40 foot-candles at the aperture: and will reset when the light intensity is reduced to 30 foot-candles or less.

CR7505-K100 Accessories

Light source, Cat. No. 98X264



Light-source transformer, Cat. No. 71G620

Light Source, Cat. No. 98X264, consists of a die-cast chassis with an internal bracket that has slots provided to allow the lamp socket, which is mounted on it, to be adjusted for height. A die-cast, easily removable, light-tight cover is supplied. The light source is furnished with a G-E auto headlamp No. 1133.

The chassis has a tapped hole in its base, which permits mounting the light source directly on the transformer, Cat. No. 71G620, or on conduit.

CR7505-K2, Cat. No. 5363292G2

This photoelectric relay is suitable for application where the operating light beam is completely intercepted by an object which is practically opaque. Five foot-candles illumination is required to operate this relay. It will operate from light flashes or interruptions of not less than 1/15-second duration with not less than 1/15-seconds between impulses. The relay may be mounted in any position, provided vibration will not loosen the tubes in the sockets. Where excessive vibration is present, relays should not be mounted at more than 45 deg. from the vertical.

CR7505-K112G2

This photoelectric relay can operate from a 115-volt, d-c power supply or a 115-volt, 25-cycle to 60-cycle supply. The speed of operation and the sensitivity of this device are equivalent to those of the CR7505-K2 relay described previously.

CR7505-K108G15

The CR7505-K108 photoelectric relay operates from a 115-volt, 60/25-cycle, a-c or d-c supply. The unit is mounted in a dustproof and weather-proof enclosing case for outdoor use. The speed of operation and the sensitivity of this device are equivalent to those of the CR7505-K2 relay previously described.

PRICES

Nomenclature	▲Book Price	Voltage	Approx Ship. Wt, Lb
CR7505-K100—Combination A includes Cat. No. 98X264 Light Source (with lamp), Cat. No. 98X266 Lens and Holder for Light Source and Light-Source Transformer Cat. No. 71G620.	**$86.00**	115 v, 50/60 Cycles	17

Nomenclature	▲Book Price, Each, with Tubes	Volts	Cycles	Dimen. of Panel Enclosing Case, In.			Approx Ship. Wt, Lb
				Height	Wdth	Dpth	
CR7505-K2 (Cat. No. 5363269G2)	**$108.00**	115	60/50	7 1/16	5	4 1/2	7
CR7505-K112 G2	**116.00**	115	60/25 d-c	7 1/16	6	4 1/2	5
CR7505-K108 G15	**124.00**	115	60/25	10 11/16	5 3/8	7 5/8	9

HIGH-SPEED RELAYS

CR7505-N110 high-speed relay

The CR7505-N110 photoelectric relay operates from an a-c power supply. It includes a rectifier and filter circuit to supply d-c voltages to the phototube and amplifier tubes. The time of response is therefore independent of the frequency of the power supply. Extended phototube holder is supplied as a part of the control.

This device can be made to operate in response to either the actual steady state value of light on the phototube, or in response to the rate of change of this light. In addition, the relay may be made to pick up with either an increase or a decrease in the steady state light value, or with a rate of change of light in either the increasing and decreasing direction. A switch and terminals are provided on the front of the panel for ease of wiring when making connections to obtain these various types of operation.

Sensitivity—CR7505-N110G11

With from 1 to 10 foot-candles of illumination on the entire cathode of the phototube, a light change of

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E PHOTOELECTRIC DEVICES —Continued

only ½ foot-candle is required to pick up or drop out the control relay.

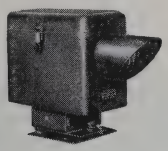
When the relay is capacitance-coupled, the photoelectric relay responds to a rapid change in light on the phototube rather than the total amount of light.

The light change on the whole cathode, must be at least one foot-candle and this change must occur at the rate of at least ten foot-candles per second, and must last at least 0.001 of a second. For example, with a light change of three foot-candles, this change must occur during a period of not more than 0.3 seconds and not less than 0.001 seconds.

Numerous special photoelectric devices are also available.

Nomenclature	▲Book Price Each	Volts	Cycles	Approx Ship. Wt, Lb
CR7505–N110G11	**$278.00**	115/230	50/60	22

CR7505-B100 photoelectric relay and CR7505-C105 light source



CR7505-B100 photoelectric relay and CR7505-C105 light source

The CR7505-B100 photoelectric relay and the CR7505-C105 light source operate on the modulated light principle.

The CR7505-C105 light source contains a light-source lamp and transformer and in addition a motor-driven slotted disk. The disk "chops" or modulates the light beam at approximately 900 cycles per second.

The CR7505-B100 photoelectric relay incorporates a tuned circuit which allows the relay to be responsive only to a light beam modulated at approximately 900 cycles per second. The relay is not sensitive to changes in natural or artificial illumination.

The high-gain amplifier employed in the CR7505-B100 relay in conjunction with the tuned circuit elements allows this equipment to be used with light paths as long as 1000 feet. The CR7505-C105 light source is equipped with infrared filter which removes most of the visible light from the light beam.

When operated at distances of 1000 feet or less, this equipment has, in general, sufficient sensitivity to prevent false operation due to atmospheric conditions.

The outdoor enclosures are equipped with a universal mounting which simplifies lining up the light path between the light source and relay even although the mounting plate has been securely fastened to some fixed object.

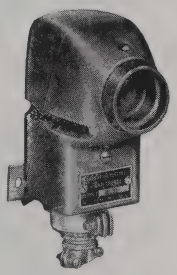
The CR7505-B100 relay is provided with a sensitivity control which allows the equipment to be adjusted for the particular light-path distance.

Nomenclature	Voltage	Frequency, Cycles	▲Book Price	Wt, Lb
CR7505C105G3 Light Source	115/230	60	**$1202**	30
CR7505B100G3 Relay	115/230	60		30

G-E CR7505 PHOTOELECTRIC ACCESSORIES

LIGHT SOURCES

CR7505-C201



CR7505-C201 light source

The CR7505-C201 light source has a die-cast, aluminum enclosure. The back cover is spring-clipped in place so that it is easily removable for accessibility to the socket. An adjustable mounting bracket permits mounting in almost any position. The unit can be mounted directly on ½-inch conduit.

The CR7505-C201 light source can be mounted directly on top of the Model No. 9TY51A1 transformer so that a completely assembled light source with transformer results. This eliminates the use of protected leads to the light source, as connections can be made directly within the transformer enclosure.

Nomenclature	▲Book Price	Volts	Freq	Approx Wt, Lb
CR7505–C201G1 Light Source	**$20.00**	6–8	.....	6
9TY51A1 Transformer	**14.00**	115/230	50/60	2

CR7505-C202

This light source for indoor service is similar to CR7505-C201, except that an additional lens is added to provide a short-focus, concentrated beam of light. This unit will concentrate an intense spot of light approximately ¼ inch in diameter at a distance of 2½ to 4 inches in front of the lens. The appearance and dimensions are the same as the CR7505-C201.

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E PHOTOELECTRIC ACCESSORIES —Continued

CR7505-C203

This light source is similar to the CR7505-C201 except that it is 3 inches in diameter and provided with a 4½-inch focal-length lens. It is of weather-resistant and dustproof construction in accordance with NEMA specifications. It may be used on machines which must be washed down, provided that the unit is not directly subjected to the hose stream.

CR7505-C203 dustproof light source

Order light sources by CR number. Specify voltage and frequency for transformer to be used with indoor light source.

Nomenclature	▲ Book Price, Each, without Lamp or Transformer	Dimensions, Inches			Appro Ship. Wt, Lb
		Height	Width	Depth	
CR7505-C200G1	**$18.50**	4 9/16	2 3/4	3 7/16	6
CR7505-C201G1	**20.00**	6 11/16	2 7/16	6 1/2	6
CR7505-C202G1	**24.00**	6 11/16	2 7/16	6 1/2	6
CR7505-C203G2	**32.00**	6 11/16	2 7/16	8 1/2	6

INDOOR LIGHT-SOURCE TRANSFORMERS

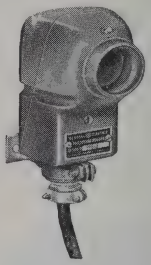
These transformers may be used to supply low-voltage a-c to one filament of a 21- or 32-cp lamp in any one of the indoor light sources. They are rated 110/220 volts primary with a secondary voltage to provide approximately 1000 hours' life from either a 21- or 32-cp, 6-8 volt automobile lamp. A tap is also provided on the secondary to give approximately 3000 hours' life from either a 21- or 32-cp, 6-8 volt lamp (with reduced illumination).

	Open Type 9TM321A1	Enclosed 9TY51A1	Weatherproof 92G34
Volts	115/230	115/230	115/230
Cycles	50/60	50/60	25/50/60
▲Book price, each	**$14.00**	**$14.00**	**$20.00**
Ship. wt, lb	2	2	5

CR7500-F1 Special Cover

This cover is provided with a light-collecting lens 3 inches in diameter, and a small aperture between the lens and the phototube. The light tunnel projects 3 inches from the front of the cover. The addition of this cover makes either the CR7505-K2 or CR7505-K112 sensitive to an illumination of 1 foot-candle at the lens, and, when the lens is completely illuminated, minimizes the effect of extraneous light.

CR7505-P202 Phototube Holder, Cable, and Plug



CR7505-P202 phototube holder

If it is necessary to locate the phototube at some distance from CR7505-K2 or -K112 relays, this holder may be used. The dimensions of this unit are the same as those of the CR7505-C201 light source.

CR7505-B200 Infrared Filter Cap

This unit is a small cap which fits over the end of the lens barrel of the CR7505-C201 or -C202 light source to provide a practically invisible beam. The cap contains a filter glass which absorbs practically all of the visible energy radiated by the lamp, but permits the infrared energy to pass. The photoelectric relays are sensitive to this infrared energy. The sensitivity is reduced somewhat by adding a filter.

Nomenclature	Description	For Use With	▲Book Price, Each
CR7500-F1, Cat. No. 4387586	Special Cover	CR7505-K2, -K112	**$32.00**
CR7505-P202G3	Phototube holder, cable, and plug	CR7505-K2, -K112	**32.00**
CR7505-B200G1	Infrared filter cap	CR7505-C201, -C202	**12.00**
	Arc-suppression filter, Cat. No. 28F9	CR7505-K2, -K112, -K108	**3.90**

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

G-E CR1070 SWITCHETTES (Switch Mechanisms)

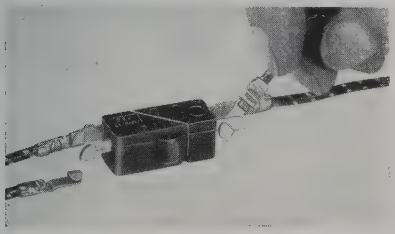
115/230 Volts, A-c

Size 1: For motors up to ½ hp
Size 2: For motors up to ¾ hp

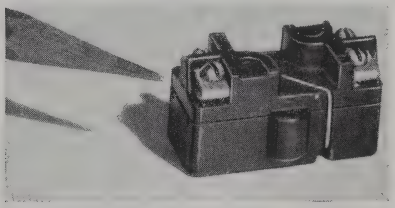
Approximate Dimensions
Size 1: 1¼ by ½ by ½ in.
Size 2: 2 by 1⅜ by 1 1/16 in.

Some of the Many Forms Available

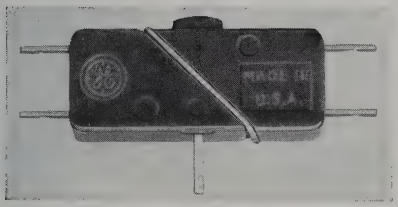
This small, extremely versatile switch mechanism is available in many forms with special contact arrangements and design modifications. Especially applicable where space is limited, and long life is desired, the Switchette can be used wherever a manually or mechanically operated switch is desired. For further information, see Bulletin GEA-4888.



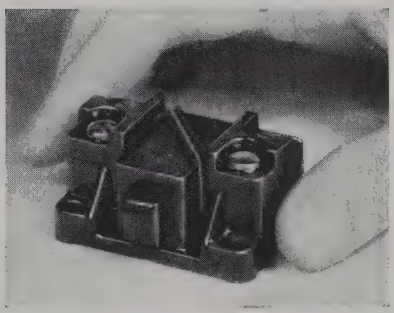
Size 1 quick-disconnect Switchette, CR1070-C114



Size 1 Switchette with No. 2 screw terminals, CR1070-C101



Size 1 maintaining-contact Switchette, CR1070-C110



Size 2 Switchette, CR1070-A102

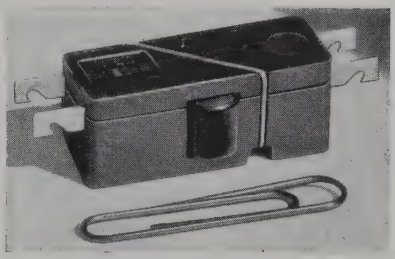
A Few of Many Typical Switchette Applications

As a float switch in automatic washing machines, the Switchette regulates water flow according to the height of water. It was selected for this application because of its small size and its ability to handle a 1/3-hp washing-machine motor. This unit must be capable of operating thousands of times, and limited force is available to operate the switch from the float.

As a contact mechanism in temperature pressure limits in domestic oil burners and stokers, to provide protection against overtemperature or overpressure. The use of a Switchette on this application resulted in a smaller complete device.

As a contact unit in juke boxes, pinball machines, and coin vending machines, it controls the mechanisms that turn records, keep score, or deliver the merchandise. Its wide variety of special contact arrangements makes this switch ideally suited to this application.

A cam-operated Switchette is used to time industrial processes and operation. The small size and easy mounting of this unit makes it very desirable.



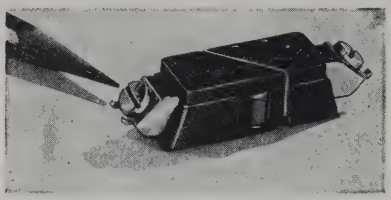
Size 1 spring-return Switchette, CR1070-C103

In private aircraft, the Switchette is used to control radios, to limit the travel of the mechanism used to raise and lower landing wheels, and to perform numerous other duties.

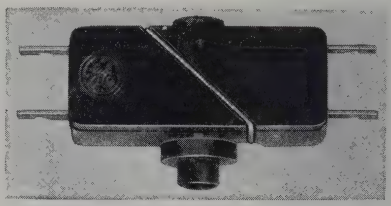
G-E CR1070 SWITCHETTES (Switch Mechanisms)

115/230 Volts, A-c
Continued

A manually operated Switchette is used as a trigger switch in automatic hand drills, since its small size permits an easy fit into the motor casting. Similar units also have been used in foot-operated switches for machine tools, and dashboard tools for road-grading equipment.



Size 1 Switchette, with No. 6 screw terminals, CR1070-C122



Maintaining-contact Switchette, CR1070-C111, with long key extension, but equipped with button

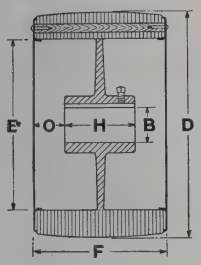
Nomenclature	Contact Structure	▲Book Price, Each
	Size 1	
CR1070-C101D3	Single-circuit, normally closed	$2.60
-C101E3	Single-circuit, normally open	2.60
-C101F3	Two-circuit	3.05
CR1070-C103A3	Single-pole, normally closed	1.75
-C103D3		
-C103B3	Single-pole, normally open	1.75
-C103E3		
CR1070-C103C3	Two-circuit	2.05
-C103F3		
CR1070-C103G2	Single-pole, normally closed	1.75
-C103G4		
-C103K2		
-C103K4		
CR1070-C103H2	Single-pole, normally open	1.75
-C103H4		
-C103L2		
-C103L4		
CR1070-C103J2	Single-pole, double-throw	2.00
-C103J4		
-C103M2		
-C103M4		
CR1070-C103N3	Three-point, normally closed	2.25
-C103Q3		
-C103P3	Three-point, normally open	2.25
-C103R3		
CR1070-C103S3	Two closed and one open contacts	2.65
-C103U3		
-C103T3	Two open and one closed contacts	2.65
-C103V3		
CR1070-C110A3	Single-pole, normally closed	2.05
-C110D3		
-C110G2		
-C110G4		
-C110K2		
-C110K4		
CR1070-C110B3	Single-pole, normally open	2.05
-C110E3		
-C110H2		
-C110H4		
-C110L2		
-C110L4		

Nomenclature	Contact Structure	▲Book Price, Each
CR1070-C110C3	Two-circuit	$2.35
-C110F3		
CR1070-C110J2	Single-pole, double-throw	2.35
-C110J4		
-C110M2		
-C110M4		
CR1070-C111A3	Single-pole, normally closed	1.85
-C111D3		
-C111G2		
-C111G4		
-C111K2		
-C111K4		
CR1070-C111B3	Single-pole, normally open	1.85
-C111E3		
-C111H2		
-C111H4		
-C111L2		
-C111L4		
CR1070-C111C3	Two-circuit	2.15
-C111F3		
CR1070-C111J2	Single-pole, normally closed	2.15
-C111J4		
-C111M2		
-C111M4		
CR1070-C114A3	Single-circuit, normally closed	2.20
-C114B3	Single-circuit, normally open	2.20
-C114C3	Two-circuit	2.60
CR1070-C122A3	Single-circuit, normally closed	2.25
-C122B3	Single-circuit, normally open	2.25

Nomenclature	Contact Structure	▲Book Price, Each
	Size 2	
CR1070-A102D	Single-pole, normally closed	$3.75
-A102E	Single-pole, normally open	3.75
-A102F	Two-circuit	4.20

▲*This page includes new "Book" prices subject to discount. For the correct discount, consult your G-E supplier.*

ROCKWOOD FIBRE PULLEYS



For use on motors, generators, board drop hammers and all high grade belted machinery. Should be used where the highest belt efficiency is to be maintained.

The high coefficient of friction of Rockwood Fibre Pulleys may be taken advantage of in one or all of four ways, depending on the conditions of service. First, reduced slippage. Second, decreased belt tension. Third, more power transmitted. Fourth, lower total costs of pulleys and belting.

Rockwood Fibre Pulleys will transmit more power than any other pulley. There will be less belt slip, less wear, and lower pulley costs. All the power a belt will carry will be transmitted — the belt is the limit — not the Rockwood Fibre Pulley. They are lighter, non-breakable, and have a lower freight classification.

LARGE STOCK

1160 sizes of Rockwood Fibre Pulleys from 1½ to 14 inch diameters, and in a wide range of popular bore sizes, are carried in stock. Now you can get the pulley you ought to have and you can get it when you want it. In addition to immediate deliveries, the use of stock pulleys results in a substantial saving in cost.

Bores of stock pulleys vary by 1/16ths in sizes up to 2 inches; above 2 inches by 1/8ths. We do not rebore stock pulleys but we can quickly make up special pulleys 72 inches in diameter and under of any face widths desired and to fit other shaft sizes.

Keyseats in the stock pulleys are as follows:

Dimensions, Inches			
Bore	Keyseat	Bore	Keyseat
½ and 9/16	1/8 x 1/16	1 7/8 to 2 1/4	½ x ¼
5/8 to 7/8	3/16 x 3/32	2 3/8 to 2 5/8	5/8 x 5/16
15/16 to 1 1/4	¼ x 1/8	2 3/4 to 3 7/8	3/4 x 3/8
1 5/16 to 1 13/16	3/8 x 3/16		

For shafts having wider or narrower keyseats than in the pulley we can supply offset keys.

Hub Lengths are made three times the bore, less ¼ inch to ½ inch when construction will permit. Hub locations conform generally to the following table. However, conditions of design frequently require other hubs and locations. If these dimensions are important, send for detailed list.

Dimensions, Inches			
Diam. of Pulley	Hub to Rim Mach. Side	Diam. of Pulley	Hub to Rim Mach. Side
1½ to 3½	Flush	6 to 10	3/4
4 to 5½	¼	11 to 14	5/8

HOW TO ORDER ROCKWOOD FIBRE PULLEYS

When ordering specify: (see cut above):
1—Number of pulleys wanted.
2—Diameter (D).
3—Total width of face (F).
4—Width of belt.
5—Exact bore or shaft diameter (B).
6—Width of keyway.
7—Depth of keyway in pulley.
8—Length of hub (H).
9—Distance from end of hub to edge of rim (O).
10—Kind of face—whether crown, straight, double crown or combination.

ROCKWOOD FIBRE PULLEYS

In determining the size pulley required, the following formula can be used: Multiply the diameter of the driven pulley by its revolutions per minute, and divide by the number of revolutions of the driver.

LIST PRICES OF ROCKWOOD PULLEYS

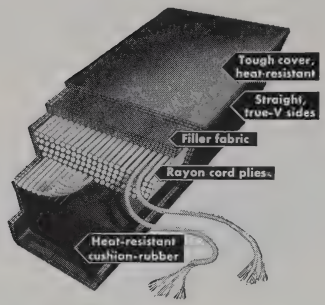
Diam. In.	Total Face Width 2	3	4	5	6	7	8	9
1½	$4.20	$4.70	$5.20	$5.60	$6.10	.....	.....	.....
2	4.30	4.80	5.30	5.80	6.30	$7.00	.....	.....
2½	4.50	5.00	5.50	6.00	6.60	7.30	$8.40	.....
3	4.80	5.30	5.80	6.30	6.80	7.70	8.80	$9.90
3½	5.20	5.70	6.20	6.70	7.30	8.10	9.20	10.30
4	5.60	6.10	6.60	7.20	7.80	8.50	9.60	10.70
4½	6.10	6.60	7.10	7.70	8.30	9.00	10.00	11.20
5	6.60	7.00	7.60	8.30	9.00	9.80	10.90	12.10
5½	7.10	7.50	8.10	8.80	9.60	10.50	11.60	12.80
6	7.60	8.00	8.70	9.40	10.20	11.20	12.30	13.60
7	8.60	9.00	9.80	10.60	11.50	12.60	13.70	15.10
8	9.60	10.10	11.00	11.90	12.80	13.90	15.10	16.70
9	10.60	11.20	12.20	13.20	14.10	15.30	16.50	18.30
10	11.70	12.40	13.40	14.40	15.40	16.70	18.00	19.90
11	12.90	13.60	14.60	15.60	16.70	18.10	19.50	21.60
12	14.10	14.80	15.90	17.00	18.10	19.60	21.10	23.30
13	15.30	16.00	17.20	18.40	19.60	21.20	22.80	25.10
14	16.50	17.30	18.50	19.80	21.10	22.80	24.50	26.90
15	.....	18.60	19.80	21.20	22.60	24.40	26.30	28.80
16	.....	19.90	21.10	22.60	24.10	26.10	28.10	30.70
17	.....	21.20	22.50	24.10	25.70	27.80	30.00	32.70
18	.....	22.50	23.90	25.50	27.40	29.60	31.90	34.70
19	.....	23.90	25.30	27.10	29.20	31.50	33.90	36.90
20	.....	25.20	26.80	28.70	30.90	33.30	36.20	39.40
21	.....	26.60	28.40	30.50	32.80	35.30	38.40	41.80
22	.....	28.20	30.10	32.50	35.00	37.50	40.80	44.60
23	.....	29.60	31.70	34.30	37.10	39.80	43.00	47.30
24	.....	31.20	33.50	36.20	39.20	42.10	45.60	50.10

Diam. In.	Total Face Width 10	11	12	13	14	15	16	17
3½	11.40	.....	.....	.....	.....	.....	.....	.....
4	11.90	13.00	.....	.....	.....	.....	.....	.....
4½	12.30	13.50	14.70	.....	.....	.....	.....	.....
5	13.50	14.90	16.70	18.90	.....	.....	.....	.....
5½	14.30	15.80	17.70	19.90	22.40	.....	.....	.....
6	15.10	16.80	18.70	20.90	23.90	27.90	.....	.....
7	16.70	18.60	20.70	23.00	26.10	29.60	33.20	.....
8	18.40	20.40	22.70	25.20	28.40	32.20	36.00	41.70
9	20.10	22.30	24.80	27.50	30.80	34.90	39.10	44.70
10	21.90	24.30	27.00	29.90	33.30	37.70	42.20	47.80
11	23.70	26.30	29.20	32.30	35.90	40.50	45.30	51.00
12	25.60	28.40	31.50	34.80	38.60	43.40	48.50	54.30
13	27.50	30.50	33.80	37.40	41.40	46.30	51.70	57.60
14	29.50	32.70	36.20	40.10	44.30	49.50	55.00	61.00
15	31.50	34.90	38.60	42.80	47.30	52.70	58.30	64.50
16	33.50	37.20	41.10	45.60	50.40	56.00	61.70	68.10
17	35.60	39.60	43.70	48.50	53.60	59.30	65.20	71.80
18	37.80	41.60	46.40	51.50	56.90	62.70	68.90	75.60
19	40.30	44.50	49.60	54.80	60.30	66.20	72.50	79.50
20	43.20	47.70	53.00	58.30	63.90	69.90	76.30	83.30
21	46.00	50.90	56.50	62.10	67.80	73.80	80.20	87.30
22	49.20	54.30	60.10	65.90	71.70	77.70	84.20	91.40
23	52.10	57.60	63.70	69.80	75.90	82.00	88.50	95.50
24	55.20	60.90	67.30	73.70	80.10	86.50	93.00	99.60

Prices of larger sizes on application, made in all face widths and up to 72 inch diameter.

B. F. GOODRICH MULTICORD BELTS

High Capacity Belts



The only high capacity belt made that doesn't stretch enough to affect efficiency of a drive. Built with slightly thicker grommets than the regular grommet belt. Has 40 per cent higher horse power rating. Fewer belts are required per drive reducing over-all weight. Oil-resisting.

Only with grommet construction is it possible to increase the number of cords reinforcing a V-belt. Increased strength in other belts must be accomplished by using synthetic fibres. Although strong, these fibres stretch greatly under tension. Field tests have shown that other type V-belts stretched around 65 per cent to 165 per cent more than the B. F. Goodrich belt on identical drives.

Recommended use: Where a large amount of horsepower must be transmitted within a limited amount of space or where the total weight of the power unit is a serious factor. Ideal for use on existing overload drives; drives where sheaves with fewer grooves are required. Special oil-resisting cover for drives operating in oily conditions.

Stronger rayon cord: Made with multiple plies of a tight twisted rayon cord. Enables belts to flex rapidly over pulleys with less fatigue.

Cords float in rubber: Each individual cord floats free in rubber, and under stress cords stretch together, not across each other. Cords cannot rub against each other to cause internal heat and friction.

Balanced construction: Filler fabric keeps cords in line and parallel to top and bottom of belt. This **balanced** construction means that every individual cord carries its share of the load, eliminating destructive, concentrated stresses.

Shock absorbing base: Cushions cord against impact wear and tear. Furnishes extra support for load carrying cord.

Sizes: A and B sections.

All B. F. Goodrich V-belts have these features

Heat resisting rubber: Previously, only special belts made expressly for use at high temperatures had heat resisting rubber. Internal belt damage caused by heat generated at high speeds is prevented. Life is increased since heat makes belts brittle, causing cracking and failure.

Straight sides: All B. F. Goodrich V-belts have straight sides. V-belts tend to bulge at the sides when flexed around a sheave. Pressure exerted from bulge against sheave groove gives the belt its grip. True V-belts with straight sides make the most efficient use of this principle. Belts without straight sides reduce natural gripping pressure. Belt surface does not make a solid pressure contact with sides of sheave. Such belts may slip too deeply into grooves, bind and chafe covers. True V-belts fit sheave groove and have advantage of strong, even driving pressure. Less chance of slipping than belts with "dished-in" sides.

Stronger carcass: Cord-rubber adhesion has been considerably increased by new rubber compounds that grip cords more securely. This bond is also increased by the use of rayon, which adheres more readily to rubber than cotton cord previously used. Possibilities of cord-rubber separation, causing belt failure, are greatly reduced.

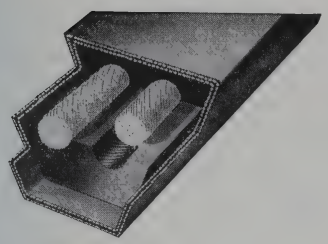
V-belt numbers, sizes, pitch lengths — A and B sections

A CROSS SECTION A ½" Wide x 5/16" Thick x 40° Angle			A CROSS SECTION A ½" Wide x 5/16" Thick x 40° Angle			B CROSS SECTION B 21/32" Wide x 13/32" Thick x 40° Angle			B CROSS SECTION B 21/32" Wide x 13/32" Thick x 40° Angle			B CROSS SECTION B 21/32" Wide x 13/32" Thick x 40° Angle		
Size No.	Pitch Length Inches	Outside Circumference Inches	Size No.	Pitch Length Inches	Outside Circumference Inches	Size No.	Pitch Length Inches	Outside Circumference Inches	Size No.	Pitch Length Inches	Outside Circumference Inches	Size No.	Pitch Length Inches	Outside Circumference Inches
A 26	27.3	28.1	A 64	65.3	66.1	B 35	36.8	37.9	B 68	69.8	70.9	B112*	114.3	115.4
A 31	32.3	33.1	A 66	67.3	68.1	B 38	39.8	40.9	B 71	72.8	73.9	B120	121.8	122.9
A 33	34.3	35.1	A 68	69.3	70.1	B 42	43.8	44.9	B 75	76.8	77.9	B128	129.8	130.9
A 35	36.3	37.1	A 71	72.3	73.1	B 46	47.8	48.9	B 78	79.8	80.9	B131	132.8	133.9
A 38	39.3	40.1	A 75	76.3	77.1	B 48	49.8	50.9	B 79	80.8	81.9	B136	137.8	138.9
A 42	43.3	44.1	A 78	79.3	80.1	B 51	52.8	53.8	B 81	82.8	83.9	B144	145.8	146.9
A 46	47.3	48.1	A 80	81.3	82.1	B 53	54.8	55.9	B 83	84.8	85.9	B158	159.8	160.9
A 48	49.3	50.1	A 85	86.3	87.1	B 55	56.8	57.9	B 85	86.8	87.9	B173	174.8	175.9
A 51	52.3	53.1	A 90	91.3	92.1	B 57	58.8	59.9	B 90	91.8	92.9	B180	181.8	182.9
A 53	54.3	55.1	A 96	97.3	98.1	B 60	61.8	62.9	B 93	94.8	95.9	B195	196.8	197.9
A 55	56.3	57.1	A105	106.3	107.1	B 62	63.8	64.9	B 97*	99.3	100.4	B210	211.8	212.9
A 57	58.3	59.1	A112	113.3	114.1	B 64	65.8	66.9	B100	101.8	102.9	B240	240.3	241.4
A 60	61.3	62.1	A120	121.3	122.1	B 65	66.8	67.9	B103	104.8	105.9	B270	270.3	271.4
A 62	63.3	64.1	A128	129.3	130.1	B 66	67.8	68.9	B105	106.8	107.9	B300	300.3	301.4

*Not RMA standard lengths due to established drive requirements.

Note: Outside circumference shown are nominal.

B. F. GOODRICH GROMMET BELTS



Twin grommet construction: A grommet is endless. Grommets in B. F. Goodrich belts are made by winding heavy rayon cord on itself to form a loop. There is no overlapping cord section as in all ordinary belts. Belt strength is uniform throughout.

A grommet is not an ordinary cable. (Ordinary cables are simply twisted cords; ends must be overlapped or spliced) Center cords — which in other types of V-belts don't pull their share of the load — are eliminated.

Grommet belts last 20 to 50 per cent longer, stretch less, carry greater loads, yet cost no more than other V-belts. There is no other belt like the patented B. F. Goodrich grommet belt, it represents the only basic advance in V-belt design in years.

Greater flexibility: No plies of fabric to stiffen belt and decrease ability to absorb shock. There is no splice, no stiff, built-up section where cords overlap. Eighty-five per cent of failures in other type V-belts occur in overlapped sections.

Stretch reduced 67 per cent: The best belts of regular construction have three times the stretch of grommet belts. Moisture absorbed during storage causes the conventional cotton or rayon cord reinforced belt to shrink. Once put into service these belts seek their original length under tension. Since shrinkage is not always uniform some of the belts on the drive will stretch excessively. Loose, stretched belts suffer slip burns and are "whipped" by vibration. Cover wears out faster, shock loads can snap belts in two. In grommet belts the two endless grommets are deeply set in a solid mass of rubber. Moisture and air cannot readily penetrate through this protecting covering to cord reinforcement.

Better grip: Grommet belts give one-third more gripping power than other type V-belts; pull heavier loads with a higher safety factor. Greater flexibility is the reason for the advantage. Grommet belts have no laminated plies of cord or fabric which necessarily stiffen a belt when used as its reinforcing member. Grommet belts fit into sheave grooves more readily. But large size V-belts made with cord plies tend to lose grip on both sides of pulley when under load tension. Cords will "dish" in center reducing gripping pressure.

Less internal heat: Grommet belts generate less internal heat. All of the belt load is carried by twin, endless grommets insulated in a solid bed of cushion-rubber. No layers of cord to rub against one another and create heat as the belts go around pulleys.

Caution: Because of the difference in stretch characteristics, grommet belts and other type V-belts cannot be used together on same drive. Grommet belts although more resilient, have less tendency to stretch permanently. If placed on same drive with other V-belts, grommet belts will be overburdened with a greater part of the load.

Sizes: C, D and E sections.

Other features: Grommet belts are also made with heat-resisting rubber, improved cord rubber adhesion, straight sides, tough, bias-cut cover fabric, and are furnished in matched sets.

V-belt numbers, sizes, pitch lengths — C, D and E sections

C CROSS SECTION C ⅞" Wide x 13/32" Thick x 40° Angle		
Size No.	Pitch Length Inches	Outside Circumference Inches
C 51	53.9	55.2
C 60	62.9	64.2
C 68	70.9	72.2
C 75	77.9	79.2
C 81	83.9	85.2
C 85	87.9	89.2
C 90	92.9	94.2
C 96	98.9	100.2
C105	107.9	109.2
C112	114.9	116.2
C120	122.9	124.2
C128	130.9	132.2
C136	138.9	140.2
C144	146.9	148.2

C CROSS SECTION C ⅞" Wide x 13/32" Thick x 40° Angle		
Size No.	Pitch Length Inches	Outside Circumference Inches
C158	160.9	162.2
C162	164.9	166.2
C173	175.9	177.2
C180	182.9	184.2
C195	197.9	199.2
C210	212.9	214.2
C240	240.9	242.2
C270	270.9	272.2
C300	300.9	302.2
C330	330.9	332.2
C360	360.9	362.2
C390	390.9	392.2
C420	420.9	422.2

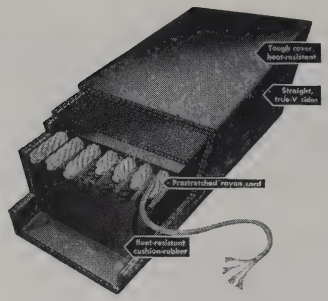
D CROSS SECTION D 1¼" Wide x ¾" Thick x 40° Angle		
Size No.	Pitch Length Inches	Outside Circumference Inches
D120	123.3	125.2
D128	131.3	133.2
D144	147.3	149.2
D158	161.3	163.2
D162	165.3	167.2
D173	176.3	178.2
D180	183.3	185.2
D195	198.3	200.2
D210	213.3	215.2
D240	240.8	242.7

D CROSS SECTION D 1¼" Wide x ¾" Thick x 40° Angle		
Size No.	Pitch Length Inches	Outside Circumference Inches
D270	270.8	272.7
D300	300.8	302.7
D330	330.8	332.7
D360	360.8	362.7
D390	390.8	392.7
D420	420.8	422.7
D480	480.8	482.7
D540	540.8	542.7
D600	600.8	602.7
D660	660.8	662.7

E CROSS SECTION E 1½" Wide x 29/32" Thick x 40° Angle		
Size No.	Pitch Length Inches	Outside Circumference Inches
E180	184.5	187.0
E195	199.5	202.0
E210	214.5	217.0
E240	241.0	243.5
E270	271.0	273.5
E300	301.0	303.5
E330	331.0	333.5
E360	361.0	363.5
E390	391.0	393.5
E420	421.0	423.5
E480	481.0	483.5
E540	541.0	543.5
E600	601.0	603.5
E660	661.0	663.5

Note: Outside circumference shown are nominal.

B. F. GOODRICH LIGHT-DUTY V BELTS



3L series formerly "O" series

New No.	Former No.	New No.	Former No.	New No.	Former No.
3LS110	(0110)	3L290	(0290)	3L440	(0440)
3LS130	(0130)	3L300	(0300)	3L450	(0450)
3L150	(0150)	3L310	(0310)	3L460	(0460)
3L170	(0170)	3L320	(0320)	3L470	(0470)
3L180	(0180)	3L330	(0330)	3L480	(0480)
3L190	(0190)	3L340	(0340)	3L490	(0490)
3L200	(0200)	3LS345	(0345)	3L500	(0500)
3L210	(0210)	3L350	(0350)	3LS510	(0510)
3L220	(0220)	3LS355	(0355)	3L520	(0520)
3L230	(0230)	3L360	(0360)	3LS530	(0530)
3L240	(0240)	3L370	(0370)	3LS550	(0550)
3L250	(0250)	3L380	(0380)	3LS570	(0570)
3LS255	(0255)	3L390	(0390)	3L580	(0580)
3L260	(0260)	3L400	(0400)	3L600	(0600)
3L270	(0270)	3L410	(0410)	3LS610	(0610)
3L280	(0280)	3L420	(0420)	3LS665	(0665)
3LS285	(0285)	3L430	(0430)	3LS675	(0675)

4L series formerly 1000 series

New No.	Former No.	New No.	Former No.	New No.	Former No.
4LS170	(1170)	4L420	(1420)	4LS675	(1675)
4L180	(1180)	4L430	(1430)	4L680	(1680)
4L190	(1190)	4L440	(1440)	4L690	(1690)
4L200	(1200)	4L450	(1450)	4L700	(1700)
4L210	(1210)	4L460	(1460)	4L710	(1710)
4LS215	(1215)	4L470	(1470)	4L720	(1720)
4L220	(1220)	4L480	(1480)	4L730	(1730)
4L230	(1230)	4L490	(1490)	4L740	(1740)
4L240	(1240)	4L500	(1500)	4L750	(1750)
4L250	(1250)	4L510	(1510)	4L760	(1760)
4L260	(1260)	4L520	(1520)	4L770	(1770)
4L270	(1270)	4L530	(1530)	4L780	(1780)
4L280	(1280)	4L540	(1540)	4L800	(1800)
4L290	(1290)	4LS545	(1545)	4L820	(1820)
4L300	(1300)	4L550	(1550)	4LS830	(1830)
4L310	(1310)	4L560	(1560)	4L840	(1840)
4LS315	(1315)	4L570	(1570)	4LS850	(1850)
4L320	(1320)	4LS575	(1575)	4L860	(1860)
4L330	(1330)	4L580	(1580)	4LS870	(1870)
4L340	(1340)	4L590	(1590)	4L880	(1880)
4L350	(1350)	4L600	(1600)	4LS890	(1890)
4L360	(1360)	4L610	(1610)	4L900	(1900)
4L370	(1370)	4L620	(1620)	4L920	(1920)
4L380	(1380)	4L630	(1630)	4LS930	(1930)
4L390	(1390)	4L640	(1640)	4L940	(1940)
4L400	(1400)	4L650	(1650)	4L960	(1960)
4LS405	(1405)	4LS655	(1655)	4L980	(1980)
4L410	(1410)	4L660	(1660)		
4LS415	(1415)	4L670	(1670)	4L1000	(11000)

WAREHOUSE STOCK LIST

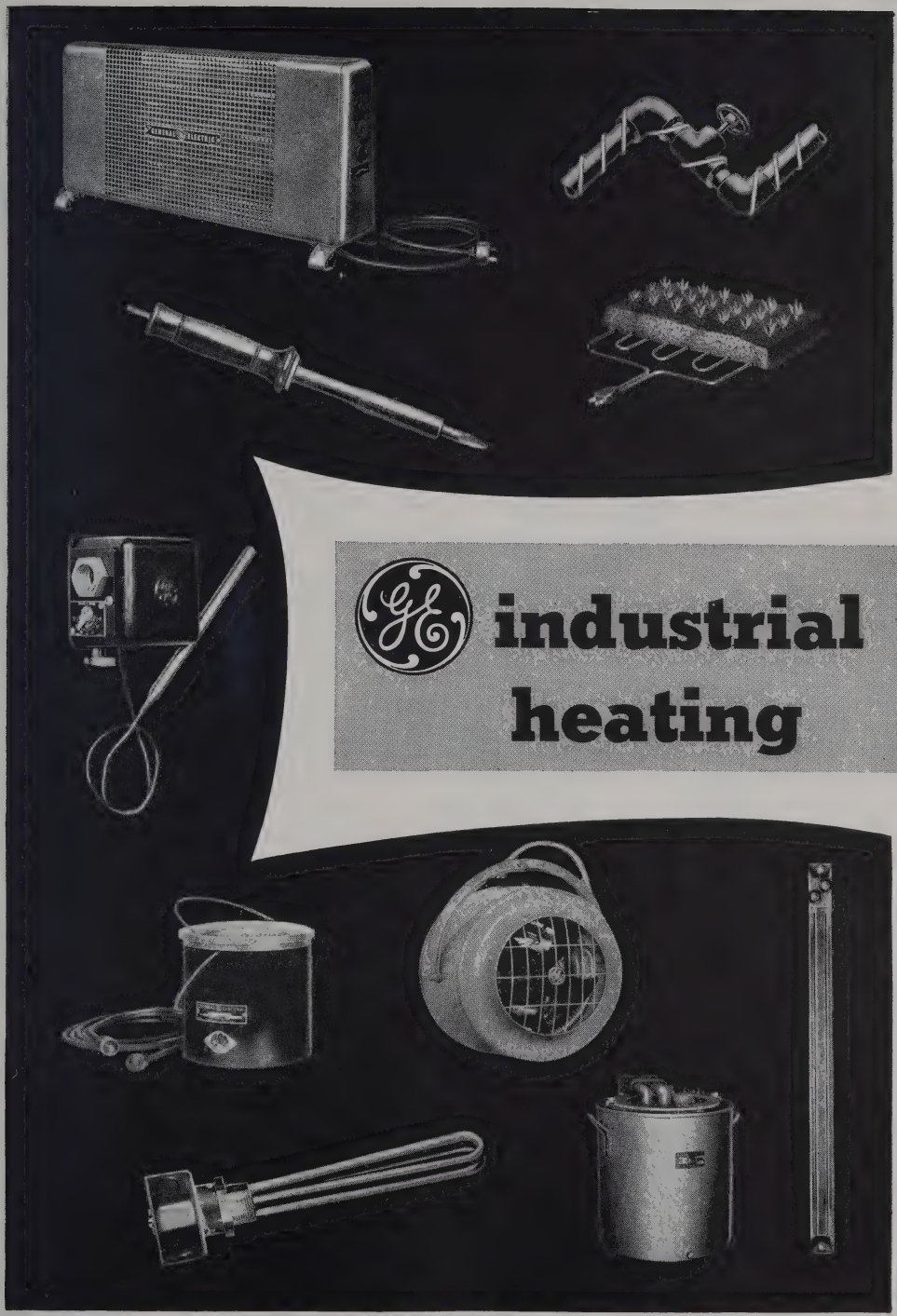
The V belt industry has standardized on a new numbering system for all light-duty (previously fractional horsepower) V belts. Until this system becomes fully established with and familiar to V belt users, all B. F. Goodrich light-duty V belts will be identified with **both** numbers. Numbers previously used will be listed in parentheses immediately following the new number.

5L series formerly 2000 series

New No.	Former No.	New No.	Former No.	New No.	Former No.
5L250	(2250)	5L500	(2500)	5L730	(2730)
5L260	(2260)	5LS505	(2505)	5L740	(2740)
5L270	(2270)	5L510	(2510)	5L750	(2750)
5L280	(2280)	5LS515	(2515)	5L760	(2760)
5L290	(2290)	5L520	(2520)	5L770	(2770)
5L300	(2300)	5L530	(2530)	5L780	(2780)
5L310	(2310)	5L540	(2540)	5L800	(2800)
5L320	(2320)	5L550	(2550)	5LS810	(2810)
5LS325	(2325)	5L560	(2560)	5L820	(2820)
5L330	(2330)	5L570	(2570)	5LS830	(2830)
5L340	(2340)	5LS575	(2575)	5L840	(2840)
5L350	(2350)	5L580	(2580)	5LS850	(2850)
5L360	(2360)	5L590	(2590)	5L860	(2860)
5LS365	(2365)	5L600	(2600)	5LS870	(2870)
5L370	(2370)	5L610	(2610)	5L880	(2880)
5L380	(2380)	5L620	(2620)	5LS890	(2890)
5L390	(2390)	5L630	(2630)	5L900	(2900)
5L400	(2400)	5L640	(2640)	5LS910	(2910)
5L410	(2410)	5L650	(2650)	5L920	(2920)
5L420	(2420)	5LS655	(2655)	5LS930	(2930)
5L430	(2430)	5L660	(2660)	5L940	(2940)
5L440	(2440)	5L670	(2670)	5LS950	(2950)
5L450	(2450)	5L680	(2680)	5L960	(2960)
5L460	(2460)	5L690	(2690)	5LS970	(2970)
5L470	(2470)	5L700	(2700)	5L980	(2980)
5L480	(2480)	5L710	(2710)	5LS990	(2990)
5L490	(2490)	5L720	(2720)	5L1000	(21000)

Non-standard warehouse belts

New No.	Former No.	New No.	Former No.	New No.	Former No.
3LS140	(7140)	4LS390	(7394)	6LS490	(7492)
3LS157	(7160)	6LS392	(7397)	5LS492	(7495)
4LS195	(7195)	4LS397	(8395)	6LS499	(7501)
4LS280	(7281)	5LS403	(8403)	4LS503	(7502)
4LS295	(7295)	5LS405	(7408)	6LS580	(7510)
5LS303	(7301)	4LS408	(7407)	7LS522	(7522)
4LS311	(7314)	5LS406	(7412)	6LS528	(7530)
4LS320	(7322)	5LS408	(7414)	6LS530	(7534)
5LS322	(8322)	6LS419	(7420)	6LS535	(7536)
4LS329	(7331)	5LS419	(7423)	5LS546	(7545)
5LS333	(7334)	5LS424	(7424)	5LS541	(8540)
5LS334	(7335)	4LS431	(8431)	5LS557	(7560)
5LS341	(7344)	5LS438	(7442)	5LS560	(7557)
5LS344	(7347)	6LS440	(7445)	6LS564	(7563)
5LS353	(7355)	6LS443	(7448)	6LS573	(7571)
5LS354	(8354)	5LS447	(8459)	6LS599	(7600)
5LS360	(7364)	5LS446	(7454)	5LS616	(7621)
5LS361	(7365)	5LS458	(8458)	6LS624	(7623)
4LS364	(7366)	5LS459	(7461)	7LS643	(7643)
4LS369	(7373)	6LS462	(7464)	6LS657	(7661)
4LS370	(7374)	5LS466	(7471)	5LS676	(7674)
4LS371	(7378)	6LS467	(7467)	6LS706	(7706)
5LS372	(8372)	6LS470	(7474)	7LS783	(7783)
5LS376	(7380)	5LS470	(8470)	7LS840	(7843)
5LS377	(7381)	6LS480	(8480)	7LS883	(7879)
4LS378	(7382)	6LS486	(7490)	7LS933	(7933)
5LS383	(8385)	5LS487	(7491)	7LS993	(7993)
5LS384	(8383)				


industrial
heating

G-E CALROD¶ IMMERSION HEATERS

FOR WATER

These copper-sheathed heaters have a high heat density. A few of their numerous applications are found in: water baths, cleaning tanks, water-jacketed containers, humidifiers, load resistors, industrial water heaters, quench tanks, electric steam radiators, stills and sterilizers, steam generators, and many others.

Fig. 1

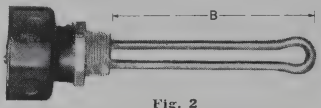


Fig. 2

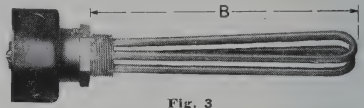


Fig. 3

Kw Rating	No. of Heats	Cat. No. § 115 Volts	Cat. No. § 230 Volts	List Price, Each	Approx Ship. Wt in Lb	Approx Dimensions in Inches: Fig. §	"B" Dimension	Header Size *	Over-all Length	250-volt Switches ‡ for Manual Control: Cat. No.
0.65	1	2D109	2D109G2	**$12.40**	2	1	4½	1¼	7¾	GE987 Single-heat
1.0	1	2D110	2D110G2	**14.10**	2	2	10	1¼	13¼	
1.3	3	2D111	2D111G2	**17.60**	3	3	7½	1¼	10¾	278608 3-heat
2.0	3	2D112	2D112G2	**20.40**	3½	3	10	1¼	13¼	296569 3-heat
3.0	3	2D113	2D113G2†	**24.90**	6	3	10½	2	13¾	296569 3-heat
4.0	3	2D114	2D114G2†	**28.00**	7	3	13½	2	16¾	
5.0	3	2D115	2D115G2†	**32.00**	8	3	16½	2	19¾	
7.5	3	.....	2D117G2†	**41.00**	11	3	23¾	2	27	
10.0	3	.....	2D119G2†	**51.00**	14	3	31	2	34¼	

FOR WATER—SELF-PROTECTING TYPE

These nickel-silver-sheathed heaters, made only by General Electric, have been designed for applications in which the heaters are at times accidentally exposed to the atmosphere. Some of these applications are water baths, stills, sterilizers, and others where the liquid is likely to be boiled away or drawn off.

Self-protecting—the special alloy resistance wire, which has high temperature coefficient of resistance, reduces the watt input as the temperature is increased, thereby limiting the sheath temperature.

Kw Rating	No. of Heats	Cat. No. 115 Volts	Cat. No. 230 Volts	List Price, Each	Approx Ship. Wt in Lb	Approx Dimensions in Inches: Fig.	"B" Dimension	Header Size *	Over-all Length	250-volt Switches ‡ for Manual Control: Cat. No.
0.75	1	1A384	.....	**$21.50**	3	2	10	1¼	13½	GE987 Single-heat
1.5	3	1A385	.....	**31.00**	3½	3	10	1¼	13½	296569 3-heat
2.5	3	.....	1A386G2	**36.00**	6	3	14	2	18	
3.5	3	.....	1A387G2	**43.00**	7	3	18	2	22	
4.5	3	.....	1A388G2	**48.00**	8	3	22	2	26	

FOR NONCIRCULATING OILS

These are steel-sheath heaters with steel headers. They are particularly suitable for:

Oil heating
Oil sterilizing
Fuel-oil preheating
Impregnating waxes
Alkaline baths
Oil-jacketed containers and many similar applications

The heaters have also been successfully applied to alkaline cleaning solutions and cyanide plating solutions. They can be used in such alkalies as sodium carbonate, sodium cyanide, etc. which will not attack steel. Some of the plating-bath solutions which utilize cyanides are brass, bronze, cadmium, gold, and copper.

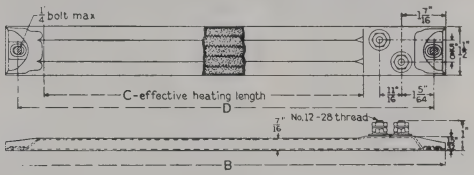
Kw Rating	No. of Heats	Cat. No. 115 Volts	Cat. No. 230 Volts	List Price, Each	Approx Ship. Wt in Lb	Approx Dimensions in Inches—See Fig. 3: "B" Dimension	Header Size *	Over-all Length	Three-heat 230-volt Switches ‡ for Manual Control: Cat. No.
1.0	1	2D120	2D120G2	**$20.50**	5	11	1¼	14¼	GE987 Single-heat
1.5	1	2D121	2D121G2	**24.10**	6	13½	2	16¾	GE987 Single-heat
2.0	3	2D122	2D122G2†	**28.00**	7	17¾	2	21	296569 3-heat
2.5	3	2D123	2D123G2†	**33.00**	8	21¾	2	25	296569 3-heat
3.0	3	2D124	2D124G2†	**35.00**	10	26	2	29¼	296569 3-heat
4.0	3	2D125	2D125G2†	**44.00**	12	34	2	37¼	.....
5.0	3	2D126	2D126G2†	**50.00**	14	41	2	44¼	.....

* Nominal pipe-thread diameter.
† These heaters for operation on a 230-volt circuit, can be operated single-heat on a 460-volt circuit by wiring the two elements in series. Switches listed above should not be used for circuits of over 250 volts.
‡ All switches listed are suitable for circuits of 250 volts, a-c or d-c.
§ Terminal covers furnished with all heaters.
¶ Reg. trade-mark.

G-E STRIP HEATERS

Serve as an air and clamp-on heaters. A few of the common applications are for: process machinery, drying ovens, warming tables, glue tables, water baths, drying cabinets, pipe lines, incubators, valve and pump houses, etc.

Features: uniform heat distribution; ridged construction that withstands vibration; compressed insulation.

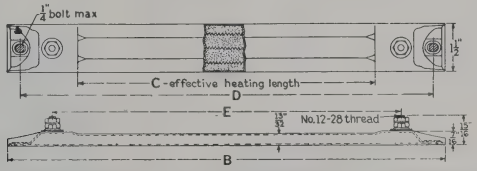


WITH OFFSET TERMINALS AT ONE END

Steel Sheath Maximum Allowable Sheath Temperature, 750 F				Chrome-steel Sheath Maximum Allowable Sheath Temperature, 1200 F				Dimensions, Inches			Approx Ship. Wt, Lb
Cat. No.	Price, Each	Watts	Volts*	Cat. No.	Price, Each	Watts	Volts*	B	C	D	
2A155G2	**$5.70**	1000	115	2A409	**$8.80**	1500	115	35½	31½	34¾	3
2A155	**5.70**	1000	230	2A409G2	**8.80**	1500	230	35½	31½	34¾	3
.....	.....	.....	.....	2A408G2	**8.80**	1000	230	35½	31½	34¾	3
2A154G3	**5.00**	750	115	2A407	**7.70**	1000	115	30⅛	26⅛	29⅜	3
2A154	**5.00**	750	230	2A407G2	**7.70**	1000	230	30⅛	26⅛	29⅜	3
.....	.....	.....	.....	2A406G2	**7.70**	750	230	30⅛	26⅛	29⅜	3
2A153	**4.00**	500	115	2A405	**6.50**	750	115	23½	19½	22¾	2
2A153G2	**4.00**	500	230	2A405G2	**6.50**	750	230	23½	19½	22¾	2
2A153G5	**4.00**	500	275	2A404	**6.50**	500	115	23½	19½	22¾	2
.....	.....	.....	.....	2A404G2	**6.50**	500	230	23½	19½	22¾	2
2A152	**3.70**	350	115	2A403	**5.80**	500	115	17⅝	13⅝	16⅞	2
2A152G2	**3.70**	350	230	2A403G2	**5.80**	500	230	17⅝	13⅝	16⅞	2
.....	.....	.....	.....	2A402	**5.80**	350	115	17⅝	13⅝	16⅞	2
.....	.....	.....	.....	2A402G2	**5.80**	350	230	17⅝	13⅝	16⅞	2
2A339	**3.40**	250	115	2A401	**5.20**	350	115	11¾	7¾	11	2
2A339G2	**3.40**	250	230	2A401G2	**5.20**	350	230	11¾	7¾	11	2
2A338	**3.30**	150	115	2A400	**4.60**	200	115	7	3	6¼	1
2A338G2	**3.30**	150	230	2A400G2	**4.60**	200	230	7	3	6¼	1

*Can be connected in series for 440- or 550-volt circuits. For these voltages, secondary insulation is required.

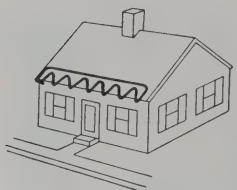
WITH TERMINALS ON BOTH ENDS



Steel Sheath Maximum Allowable Sheath Temperature, 750 F				Chrome-steel Sheath Maximum Allowable Steel Sheath Temperature, 1200 F				Dimensions, Inches				Approx Ship. Wt, Lb
Cat. No.	Price	Watts	*Volts	Cat. No.	Price	Watts	*Volts	B	C	D	E	
51X348	**$4.00**	500	115	2A414	**$6.50**	750	115	23½	19	22¾	20¾	2
51X349	**4.00**	500	230	2A414G2	**6.50**	750	230	23½	19	22¾	20¾	2
				2A413G2	**6.50**	500	230	23½	19	22¾	20¾	2
2A125	**4.00**	500	250	2A413G3	**6.50**	500	250	23½	19	22¾	20¾	2
51X346	**3.70**	350	115	2A412	**5.80**	500	115	17⅝	13⅛	16⅞	14⅞	2
51X347	**3.70**	350	230	2A412G2	**5.80**	500	230	17⅝	13⅛	16⅞	14⅞	2
51X344	**3.40**	250	115	2A411	**5.20**	350	115	11¾	7¼	11	9	2
51X345	**3.40**	250	230	2A411G2	**5.20**	350	230	11¾	7¼	11	9	2
51X342	**3.40**	150	115	2A410	**4.60**	200	115	7	2½	6¼	4¼	1

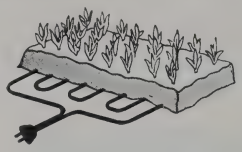
*Can be connected in series for 440- or 550-volt circuits. For these voltages, secondary insulation is required.

G-E HEATING CABLE



Roof de-icing

Pipe heating



Soil heating

Freeing sidewalks from ice

This flexible, lead-covered cable can be bent and formed to fit almost any low-temperature heating application involving temperatures of 165 F or below.

The heating cable can be used for such applications as: protecting sprinkler systems; protecting pipes, valves and pumps from freezing; warming valves and pipe lines that carry viscous material, like molasses, oil, etc.; freeing sidewalks and other surfaces from ice; melting ice from eaves and down spouts; heating kennel floors; soil heating; brooders; poultry-water warming; lily ponds; floor heating; miscellaneous air heating.

INSTALLATION

For installations in still air (pipe heating, etc.), install approximately 0.8 watts per sq ft of uninsulated surface per degree F temperature difference desired between pipe and surrounding air. If insulated with 1 inch of insulating material, use 30 per cent of this value.

To keep eave gutters and downspouts free of ice, (roof de-icing) install 1 or 2 feet of cable per foot length of gutter depending on temperature, time allowed, etc.

To free sidewalks and other surfaces of ice and to melt snow, install 3 to 6 feet of cable per square foot of iced surface depending on temperature, time allowed, etc.

If concrete is to be poured around the cable it is suggested that the cable be put in a small-diameter pipe to protect the lead sheath from the lime and to permit installing additional cable. Another method is to paint the cable with G-E No. 1201 Glyptal* or a similar compound. This prevents the free lime in the cement attacking the lead sheath.

To heat kennel floors install approximately 1 foot of cable for each square foot of floor area.

The tabulation shows the lengths of cable recommended for the more common voltages, and the resultant wattages. The use of shorter lengths on these voltages is not recommended because such practice will increase the operating temperature and shorten the cable life. Longer lengths can be used in which case the total watts will decrease.

* Registered trade-mark of General Electric Company.

Length, Feet	Volts	Total Watts
30	110	180
60	110	400
120	220	800
240	440	1600

When used in lengths indicated in the table, in free air the sheath temperature will be approximately 95 F above air temperature.

FEATURES

Pipe Heating
- Protects against freezing.
- Keeps viscous liquids warm so they can flow.

Surface Heating
- Melts snow and ice.
- Warms kennel floors, brooders, etc.

Roof De-icing
- Forms channels through ice dams on eaves and in gutters and down-spouts, allowing the water to drain off instead of backing up underneath shingles, causing interior water damage.

Soil Heating
- Reliable, automatic temperature control makes it possible to maintain ideal plant temperatures. This provides strong, healthy plants.
- Plants are grown faster and are ready for market when prices are highest.
- Cost of operation is decreased if compared with manure bed heating since this type of bed necessitates expensive preparation and loss of time.

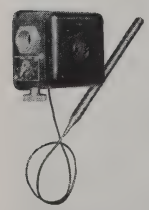
PRICING INFORMATION

	Cat. No.	Price	Approx Ship. Wt, Lb.
180-W, 110-V Heating cable set	4915978G3	**$6.60**	5
400-W, 110-V Heating cable set	4915978G1	**10.95**	11
800-W, 220-V Heating cable set	4915978G2	**22.80**	22
Bulk heating cable. 2040 ft. reels		**16.50**/C ft	360

Publications:

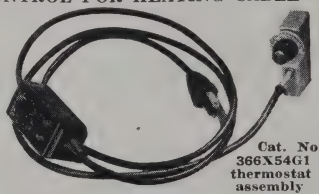
Instruction Book, Farm & Home Applications GEJ-1222
Industrial Pipe Heating GEH-1708

CONTROL FOR HEATING CABLE



G-E CR2992-R1 thermostat, Cat. No. 4980281G18

Cat. No. 366X54 thermostat



Cat. No. 366X54G1 thermostat assembly

Cat. No. 4984571G2 thermostat assembly

List Price, Each				
CR32992-R1 Thermostat Cat. No. 4980281G18 Approx Ship. Wt 3 lb ea	Renewal Bellows Cat. No. 4924969P18 Approx Ship. Wt 1 lb ea	Thermostat Assembly Cat. No. 498457lG2 Approx Ship. Wt 5 lb ea	Thermostat Cat. No. 366X54 Approx Ship. Wt 5 lb ea	Thermostat Assembly Cat. No. 366X54G1 Approx Ship. Wt 1 lb ea
$14.00	**$6.70**	**$19.20**	**$8.25**	**$9.80**

G-E NATURAL-CONVECTION-TYPE HORIZONTAL UNIT HEATERS

HORIZONTAL

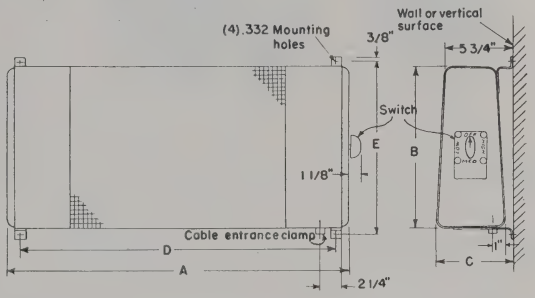
A convenient, easily installed heater for heating out-of-the-way places.

Common typical applications: substations, valve houses, pump houses, warehouses, crane cabs, airplane hangars, electric locomotives, blower rooms, repair shops, service stations, laboratories, garages, scale rooms, watchmen's houses, elevators, drying rooms, waiting stations, and ticket booths.

Free air circulation provides maximum heat. Heater is easily installed, simply mount on wall or floor and connect to power line. Easily moved from one job to another.

Heat is available at the turn of the switch. The 3-heat switch provides simple regulation of temperature and economy of operation.

Heater consists of a number of G-E strip heaters mounted in a perforated, pressed-steel case with heat-resisting painted finish.



Wall-mounted Style

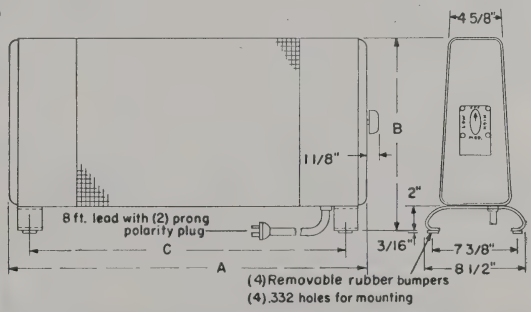
Designed for mounting directly on wall with main axis horizontal. Can be mounted with cable emerging from either right or left end.

Equipped with heat baffles to prevent overheating and scorching of wall surfaces.

Watts	with 3-heat Snap Switch					without Switches				Dimensions, Inches					Approx Ship. Wt, Lb
	Cat. No.			Cat. No.		Cat. No.									
	120 Volts, A-c	240 Volts, A-c	Price, Each △	480 Volts, A-c	Price, Each △	120 Volts, A-c	240 Volts, A-c	480 Volts, A-c	Price, Each △	A	B	C	D	E	
1000	2A373G1	2A373G2	**$32.00**	2A373G3	**$39.00**	2A373G21	2A373G22	2A373G23	**$27.30**	30 9/16	7 1/4	6 1/8	28 9/16	8 1/8	22
2000	2A374G1	2A374G2	**44.00**	2A374G3	**50.00**	2A374G21	2A374G22	2A374G23	**37.00**	30 9/16	10 1/2	6 5/16	28 9/16	11 3/8	32
3000	.....	2A375G2	**54.00**	2A375G3	**61.00**	.....	2A375G22	2A375G23	**46.00**	30 9/16	14 1/4	6 1/2	28 9/16	15 1/8	40
4500	.....	2A376G2	**73.00**	2A376G3	**78.00**	.....	2A376G22	2A376G23	**63.00**	37 1/8	14 1/4	6 1/2	35 1/8	15 1/8	50

FLOOR-MOUNTED STYLE

Each heater is equipped with a 3-heat snap switch mounted on one end and a 10-foot rubber-covered heater cord.



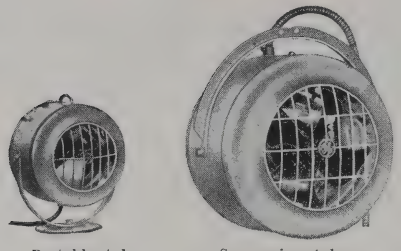
Watts	Cat. No.		Price, Each △	480 Volts, A-c	Price, Each △	Dimensions, Inches			Approx Ship. Weight, Lb
	120 Volts, A-c	240 Volts, A-c				A	B	C	
1000	2A377G1	2A377G2	**$25.70**	2A377G3	**$32.00**	30 9/16	9 1/4	27 15/16	25
2000	2A378G1	2A378G2	**33.00**	2A378G3	**40.00**	30 9/16	12 1/2	27 15/16	33
3000	.....	2A379G2	**42.00**	2A379G3	**47.00**	30 9/16	16 1/4	27 15/16	40
4500	.....	2A380G2	**54.00**	2A380G3	**61.00**	37 1/8	16 1/4	34 1/2	50

Suitable G-E control is available for these unit heaters. Ask your Distributor for complete details.

△ **Add Federal Manufacturer's Excise Tax of 10 per cent of net price of heaters and control. Compute as 10 per cent of net billing price, except that the tax shall not exceed 9 per cent of the list price.**

G-E FORCED-CONVECTION-TYPE UNIT HEATERS

50-60 Cycles, A-c



Portable style — Suspension style

Available in two styles: portable, primarily for floor mounting; suspension, for wall or ceiling mounting.

Heater. Equipped with G-E Calrod heater with strong radiating fins that multiply its radiating surface. These fins are electric-furnace-brazed to the heater to provide maximum heat-transfer efficiency.

Fan. With G-E aphonic pressure-type fan with matching outlet orifice. Provides efficient and quiet operation.

Motor. A G-E totally enclosed motor with sleeve bearings. Motor is protected against direct radiation from heating units by an ingenious baffle. Cool air is drawn over the motor frame at all times through the space between motor and the baffle.

Automatic Protection Against Overheating. Heaters rated under 10 kilowatts have a convenient reset button located on outside of case. On heaters rated 10 kilowatts and higher, remote push-button control is used, and the push button provides the necessary reset feature.

Housing. Heater may be directed upward or downward as much as 30 degrees from horizontal, to serve required area. The absence of louvers allows free flow of air.

Wide Utility. The two smaller sizes of heaters are so designed that they can be used as fans during hot weather.

To operate motor and fan independently of heaters, the 2-, 3-, and 4-kw heaters are provided with tumbler switch mounted on casing. On the 5- and 7.5-kw heaters, fan-motor leads are brought out so that fan can be connected to manual switch.

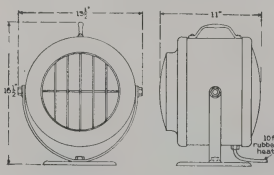


Fig. 1. Portable style (2, 3, and 4 kw)

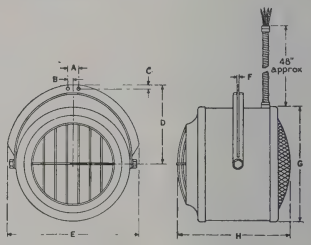


Fig. 2. Suspension style (5, 7.5, 10, 12.5, and 15 kw)

PORTABLE STYLE—Primarily for Floor Mounting, But Easily Adaptable for Wall or Ceiling Mounting

Kw	Cat. No. Single-phase, 60 Cycles, A-c, Volts 120	Cat. No. Single-phase, 60 Cycles, A-c, Volts 240	Cat. No. Single-phase, 60 Cycles, A-c, Volts 480	List Price, Each *	Approx Ship. Wt, Lb	Dimensions, See Fig.	Approximate Conditions under Normal Operation: Btu per Hour	Equivalent Direct Radiation at 240 Btu per Sq Ft	Average Velocity of Air, Ft per Min	Volume of Air, Cu Ft per Min at Outlet Temp	Temp, Deg F: Inlet	Temp, Deg F: Outlet (Avg)
2	2A174G62	2A174G63	.....	**$77.00**	40	1	6,824	28.4	390	127	70	125
3	2A175G62	2A175G63	.....	**90.00**	43	1	10,236	42.7	730	206	70	113
4	.....	2A176G63	2A176G64	**97.00**	46	1	13,648	56.9	750	212	70	127

SUSPENSION STYLE—For Wall or Ceiling Mounting

Kw	Cat. No. 240 Volts: Single-phase, 60 Cycles, A-c	Cat. No. 240 Volts: Three-phase, 60 Cycles, A-c (Single-phase Motor)	Cat. No. 480 Volts: Single-phase, 60 Cycles, A-c (With 115-volt Motor)	Cat. No. 480 Volts: Three-phase, 60 Cycles, A-c (With 115-volt Single-phase Motor)	List Price, Each * †	Ship Wt Lb	Approx Conditions under Normal Operation: Btu per Hour	Equivalent Direct Radiation at 240 Btu per Hour	Average Velocity of Air (Ft per Min)	Volume of Air, Cu Ft per Min at Outlet Temp	Temp, Deg F: Inlet	Temp, Deg F: Outlet (Avg)	Dimensions in Inches (See Fig. 2): A	B	C	D	E	F	G	H
5	2A177G60	.....	2A177G61	.....	**137.00**	80	17,060	71.1	850	510	70	99	1½	¾	½	10 5/16	17¼	3/16	15	13¼
7.5	2A178G60	.....	2A178G61‡	.....	**160.00**	90	25,590	106.4	865	520	70	113								
10	.....	2A201G41	.....	2A201G42	**210.00**	140	34,120	142	1725	1540	70	90								
12.5	.....	2A202G41	.....	2A202G42	**225.00**	150	42,650	178	1753	1565	70	95	2	1	5/8	14 3/8	25⅛	¼	22	19½
15	.....	2A203G41	.....	2A203G42	**231.00**	160	51,180	213	1782	1590	70	100								

* Add Federal Manufacturers' Tax on price of heaters and control. Compute as 10% of net billing price, except that the tax shall not exceed 9% of list price.

† Price includes 4 ft of armored connecting cable as shown in Fig. 2.

‡ On 480-volt, 5- and 7.5-kw heaters, independent leads will be brought out.

G-E FORCED-CONVECTION-TYPE UNIT HEATERS—Continued

Special A-c and D-c Unit Heaters

SPECIAL UNIT HEATERS can be supplied for connection of both fan motor and heating elements to circuits listed below

	PORTABLE				SUSPENSION¶			
Kilowatts	4	2, 3, 4	2, 3	2, 3, 4	5, 7.5, 10, 12.5, 15			
Voltage	115, A-c	208 or 440, A-c	115, D-c	230, D-c	230, A-c	208 or 440, A-c△	230, A-c	230 or 250, D-c
Frequency Cycles/sec	50/60	50/60	.....	.....	25	25, 50, or 60	25 or 50	.....
Phase	1	1	.....	.....	¶	¶	¶	.....

For all such specials, add **$10** to the price of standard heater.

¶ Motors will be single-phase, 5- and 7.5-kw heaters can be supplied for single-phase operation or with two windings for three-phase operation. 10-, 12.5-, or 15-kw heaters will be single-phase or three-phase.

△ On 440-volt, 5- and 7.5-kw heaters, independent leads will not be brought out.

Publication:
Descriptive Sheet GEA-2592D

G-E METAL-MELTING POTS

FOR SOFT METALS

Maximum Operating Temperature, 950 F

Cat. No. 2881146

Cat. No. 2666404 and 2666407

Cat. No.	Price, Each	Approx Capacity, Lb*					Wattage			Approx Ship. Wt, Lb
		Volts	50/50 Solder	Lead	†Babbitt	Tin	High	Med.	Low	
2881146G3	**$52.00**	230	28	35	†	25	750	.....	.....	50
2881146G2	**52.00**	115	28	35	†	25	750	.....	.....	50
2881146G5	**52.00**	230	28	35	33	25	1000	.....	.....	50
2881146G4	**52.00**	115	28	35	33	25	1000	.....	.....	50
2666404G1	**153.00**	230	100	135	125	90	2500	1500	1000	130
2666404G2	**153.00**	115	100	135	125	90	2500	1500	1000	130
2666407G1	**218.00**	230	330	425	390	270	5000	3000	2000	250
2666407G2	**218.00**	115	330	425	390	270	5000	3000	2000	250
3887186G2	**515.00**	230	1200	1600	1400	1000	15000	.....	.....	600

* Larger sizes to 3000 lb capacity are also standard.
† When this size pot is wanted for melting babbitt, it is necessary to use either Cat. No. 2881146G4 or 2881146G5.
‡ None of these pots is recommended for use with babbitt alloy containing more than 4 per cent copper.

Soft-metal-melting pots have been designed for melting lead, babbitt, tin, solder, type metal, and similar metals at temperatures up to 950 F.

Some of their applications are dip soldering of subassemblies, pretinning before soldering, can soldering, remelting metal, curing rubber hose, storing molten metal, etc.

Other applications are found in railway repair shops, electric service shops, newspaper and printing plants, tin-plating shops, storage-battery manufacturing plants, auto-body repair shops, bearing and fitting manufacturing plants, and foundries.

Since zinc (spelter) will erode cast iron, it should not be used in these pots. For these metals, the jacketed-type pot is recommended. Lead is usually used in the jacket with cast-in heaters immersed in the lead.

Cat. No.	Approximate Dimensions, Inches						Single Heating Units			
	Inside Crucible		Inside Clearance		Outside		Cat. No.	Price, Each,	Rating, Watts	Approx Ship. Wt, Lb
	Diam.	Depth	Diam.	Depth	Diam.	Depth				
2881146G3	6	6	3⅞	4	9	10	3A227G4	**$33.00**	750	12
2881146G2	6	6	3⅞	4	9	10	3A227G3	**33.00**	750	12
2881146G5	6	6	3⅞	4	9	10	3A228G4	**35.00**	1000	12
2881146G4	6	6	3⅞	4	9	10	3A228G3	**35.00**	1000	12
2666404G1	8	9	6½	6	14	14	3A229G4	**35.00**	1000	14
							3A230G4	**41.00**	1500	14
2666404G2	8	9	6½	6	14	14	3A229G3	**35.00**	1000	14
							3A230G3	**41.00**	1500	14
2666407G1	12	13	10	8¼	18¾	20½	3A231G4	**45.00**	2000	30
							3A232G4	**55.00**	3000	30
2666407G2	12	13	10	8¼	18¾	20½	3A231G3	**45.00**	2000	30
							3A232G3	**55.00**	3000	30
3887186G2	18	20	12	14½	29	31	3A233G4	**74.00**	5000	40

G-E METAL-MELTING POTS—Continued

SMALL PORTABLE POTS FOR SOLDER AND LEAD

Maximum Operating Temperature, 750 F

Similar in construction to the pots listed above.

The heater is of G-E Calrod construction utilizing heavy-wall steel tubing, and provided with a terminal cup.

Equipped with bail and 6-foot cord with suitable attaching plug, affording ready portability.

Approximate capacity: 50/50 solder, 12 lb; lead, 16 lb. Watts, 550.

Inside dimensions: diameter, 4¼ in.; depth, 3⅞ in. Outside dimensions: diameter, 7⅜ in.; depth, 6⅛ in.

Cat. No.	Price, Each	Volts	Approx Ship. Wt, Lb	Single Heater		
				Cat. No.	Price, Each	Approx Ship. Wt, Lb
3887185G2	**$30.00**	115	18	48X260	**$12.90**	3
3887185G3	**30.00**	230	18	48X261	**12.90**	3

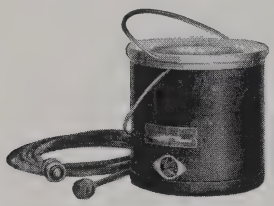
G-E AUTOMATIC GLUEPOTS

Has removable copper container for holding glue, heated copper jacket in contact with glue container, and steel protecting casing.

Heat insulation is placed between heated jacket and outer casing. Heater surrounds jacket and is completely mica-insulated.

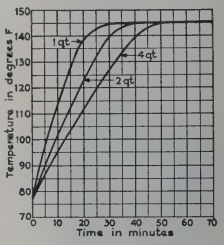
Each pot is equipped with contact plug, 8 feet of rubber-covered cord, and socket attaching plug.

A sensitive snap-acting thermostat is mounted on jacket and maintains a glue temperature at 140-150 F.

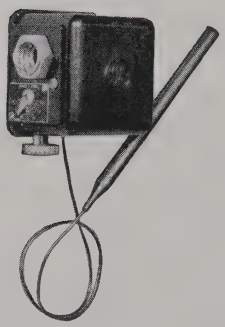


Cat. No.		Price, Each	Capacity		Outside Dimen., In.		Approx Ship. Wt, Lb
115 Volts, A-c*	230 Volts, A-c*		Qt	Watts	Ht	Diam Casing	
6A126G4	6A126G5	**$29.00**	1	150	5¼	7¼	7
6A111G4	6A111G5	**33.00**	2	250	7¼	7¼	8
6A139G4	6A139G5	**39.00**	4	350	9	8¾	10

* Add $15.00 lot for d-c



G-E INDUSTRIAL HEATING THERMOSTATS



Automatic thermostats are available for nearly any application of electric heaters and devices. Thermostat consists of a switch mechanism actuated by a bulb-and-bellows system. Current capacity is 25 amperes, a-c, noninductive, 115 or 230 volts. For higher currents and voltages, use G-E contactors. The thermostats listed have a capillary-tube length of 25 inches. Similar devices with capillary-tube lengths of 8, 60, or 120 inches are available at the same prices. Approximate shipping weight is three pounds.

Cat. No.	Price, Each	Temp Range or Possible Setting in Deg F		Bulb Size, Inches	
		Min.	Max.	Length	Diam
4980281G111	**$20.00**	65	135		
4980281G113	**20.00**	120	190		
4980281G117	**20.00**	170	240		
4980281G121	**20.00**	220	290	7⅛	½
4980281G125	**20.00**	270	370		
4980281G49	**20.00**	30	120		
4980281G92	**20.00**	70	175		
4980281G96	**20.00**	145	250	6⅝	7/16
4980281G100	**20.00**	225	330		
4980281G4	**20.00**	85	245		
4980281G2	**20.00**	145	305		
4980281G83	**20.00**	250	480	4½	7/16
4980281G87	**23.20**	370	600		
4980281G156	**28.00**	500	750	3	½

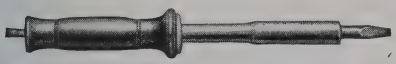
G-E CALROD SOLDERING IRONS

This new and improved line of G-E Calrod soldering irons, designed for industrial use, offers these important advantages:

High-speed soldering
Uniform performance
Long life and low maintenance
Convenient and low-cost tip renewal

Included in price of all irons: 6-ft rubber-covered cord and attaching plug; also supporting stand (except for extra-heavy-duty iron).

CAT. NO. 6A161



For light, intermittent soldering, such as radio assembly and repair and installation, switchboard, ignition, wiring devices, meters and instruments, or very light high-speed soldering of similar products.

WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz.

Equal to old-style copper—1¼-lb.

Watts	Volts		Price, Each	Tip Diam.
75	115	Calorized tip	$11.60*	See note below*
		IRONCLAD tip	12.30*	

CAT. NO. 6A162

For light, high-speed soldering, such as assembly of radios, telephones, switchboards, appliances, meters, and instruments, and installation and repair of wiring and wiring devices, ignition. Excellent for service and repair men.

WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz.

Equal to old-style copper—1¾ lb.

Watts	Volts		Price, Each	Tip Diam.
100	115	Calorized tip	$11.60*	See note below*
		IRONCLAD tip	12.30*	

*Cat. No. 6A161 and Cat. No. 6A162 can be supplied with either a ⅜- or ½-inch diameter tip at prices given. The long ½-inch diameter tip projects 3¾ inches from the shell. Price of iron with long calorized tip—**$12.10**; with long IRONCLAD tip—**$13.20.**

CAT. NO. 6A200

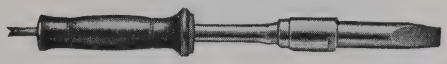
For light, high-speed soldering, such as assembly of radios and switchboards, medium intermittent soldering on tinware, wiring, plumbing, and tinsmithing. Excellent general-purpose iron for shop and farm.

WEIGHTS: Less cord, 16 oz.
With cord, 21 oz. Shipping, 27 oz.

Equal to old-style copper—2-lb.

Watts	Volts		Price, Each	Tip Diam.
100	115	Calorized tip	$13.10	¾ inch
		IRONCLAD tip	14.70	

CAT. NO. 6A201



For medium, high-speed soldering of automobile and airplane assembly, electric equipment, light tanks and containers of copper and steel. Excellent general-purpose iron for manufacturing plant.

WEIGHTS: less cord, 24 oz. With cord, 29 oz. Shipping, 34 oz.

Equal to old-style copper—3-lb.

Watts	Volts		Price, Each	Tip Diam.
200	115	Calorized tip	$16.40	1 inch
		IRONCLAD tip	18.30	

CAT. NO. 6A202

For heavy work, such as light commutators, large-diameter pipe, medium-gage copper or steel tank and container material, roofing, heavy tinware.

WEIGHTS: Less cord, 37 oz. With cord, 42 oz. Shipping, 48 oz.

Equal to old-style copper—4-lb.

Watts	Volts		Price, Each	Tip Diam.
300	115	Calorized tip	$19.80	1¼ inches
		IRONCLAD tip	21.80	

ASK ABOUT IRONCLAD COPPER TIPS

IRONCLAD TIPS MEAN

No Corroding or Pitting
No Filing
Lower Upkeep Cost
Less Maintenance
Longer Life

Effect of solder (250 C for 363.5 hours) on plain copper (left) and Ironclad copper (right) soldering tips.

FOR EXTRA-HEAVY DUTY

Designed to meet the difficult requirements of heavy continuous soldering.

Equipped with G-E Calrod unit which is cast directly into copper heating head. Tip is of calorized copper, chisel type, and is brazed to copper heating head, thereby providing efficient heat transfer. To renew tip, unbraze it from heating head and braze (silver-solder) on a new one.

Diam of Tip, In.	Watts	Cat. No. 115 Volts	Cat. No. 230 Volts	Price, Each	Net Wt, Lb
1⅝	650	6A318	6A318G2	$36.00	6
2	1250	6A319	6A319G2	65.00	8½

NOTE—230-volt irons available on request. Same prices apply

ASK YOUR DISTRIBUTOR FOR A COPY OF BULLETIN GEA-4519.

G-E MIDGET CALROD SOLDERING IRONS

⅛-in. dia tip, Cat. No. 6A212

¼-in. dia tip, Cat. No. 6A210

This 8-inch, 1¾-ounce featherweight iron for close-quarter soldering with pin-point precision is used where conventional irons might cause damage . . . be clumsy to handle . . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power . . . with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has Ironclad copper tips, either ⅛- or ¼-inch diameter, as desired.

This Midget Does a Big Job in

Boosting Production Rates
Increasing Operator Efficiency
Cutting Down Employee Fatigue
Saving on Repair and Maintenance
Reducing Rejects

Manufacturing and Repairing:

Radios and other electronic equipment
Meters
Instruments
Jewelry
Appliances
. . . and many other products requiring precision soldering

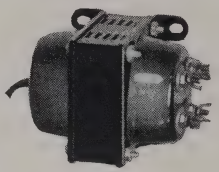
RATING: 6 VOLTS, 25 WATTS

Description	Cat. No.	List Price
⅛-in. Ironclad copper tip (pyramid-shaped)	6A212	**$6.50**
¼-in. Ironclad copper tip (chisel-shaped)	6A210	**6.50**
5/16-in. Ironclad copper tip (pyramid)	6A214	**6.50**
⅛-in. Renewal tip and heater assembly	6A213	**3.60**
¼-in. Renewal tip and heater assembly	6A211	**3.60**
5/16-in. Renewal tip and heater assembly	6A215	**3.60**

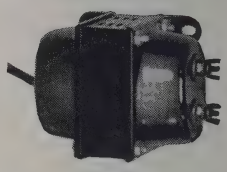
Net weight iron less cord 1¾ oz.
Net weight iron including cord 5 oz.
Shipping weight complete iron 8 oz.
Standard package consists of 6 irons of one tip size. Tip and heater assemblies furnished in minimum quantities of 6.

When ordering soldering irons and transformers, specify Cat. No.

SPECIAL TRANSFORMERS (OPTIONAL)



Four-tap, Cat. No. 84G370



Single tap, Cat. No. 84G392

Specially designed 115-volt transformers are available as optional equipment in two types:

1. Single-tap 115/6 volts—for use where only one soldering heat is required.
2. Four-tap 115/6.3/6/5.7/5.4 volts — gives wide range of heats (from 20 to 30 watts) for close temperature control of tips.

Transformers are small, lightweight, but sturdy. Their 6-foot extension cords can be plugged in any 115-volt a-c circuit.

Description	Cat. No.	List Price
Single-tap	84G392	**$5.20**
Four-tap	84G370	**7.80**

Publication Reference GES-3488

THE MIDGET OFFERS MAJOR ADVANTAGES

Low-cost soldering—Solders more efficiently, using only approximately one-fourth wattage normally used.

Fingertip operation—Only 8 inches long, weighs but 1¾ ounces. Styled for fingertip grip.

Quick, continuous heat—Famous G-E Calrod heater built into Ironclad copper tip for rapid heat transfer.

Easy renewal—Ironclad tip and heater can be replaced as a unit merely by unscrewing from handle.

Long life, low maintenance—Low voltage permits use of heavy, long-lasting resistance wire. Reduced servicing with long-lasting Ironclad copper tip.

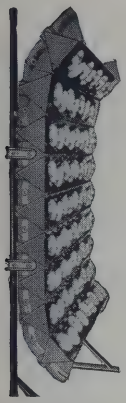
G-E Calrod heater built into tip

Tip and heater assembly

Disassembled Midget iron, showing handle assembly pulled out of handle. Tip and heater assembly is unscrewed from handle assembly

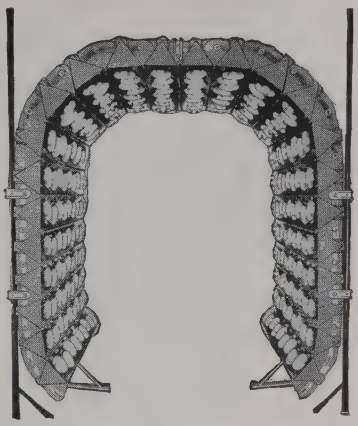
WIL-SON PATENT-FLEX OVENS

STANDARDIZED INFRA-RED OVEN



The Wil-Son Patent-Flex principle completely eliminates expensive engineering and designing of custom-built tunnels which operate at maximum efficiency only under one fixed condition.

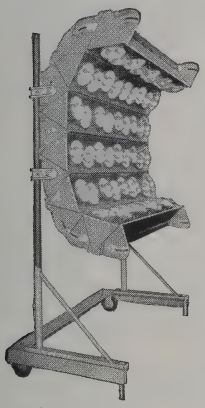
Minimum oven air space principle provides fastest possible operating temperature build-up and eliminates loss in efficiency through heating of excess air. Completely enclosed oven construction equipped with asbestos insulation provides Bonus Convection heating in addition to Infra-Red heating for maximum efficiency. Calibrated and positive lock adjustment on each lamp row makes it possible to keep a permanent record of exact oven shape on each job. Slight-staggered and overlapping heat pattern provides a new perfection in even heat distribution and permits lamp to be operated closer to the work.

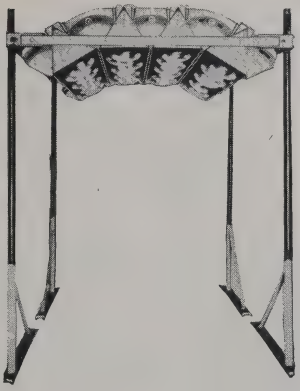


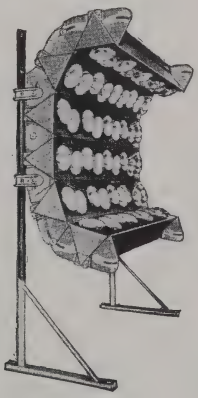
GENERAL SPECIFICATION

Oven Sections are 48 inches overall, and each lamp row is 8½ inches wide. Ovens are designed for use with the high efficiency R-40 Reflector Lamp, and have asbestos insulated back panel enclosure for maximum efficiency.

STRADDLE OVEN SECTIONS





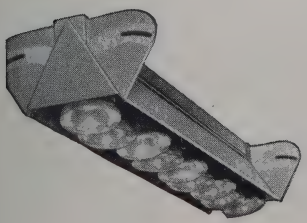


Cat. No.	Lamp Rows	Shpg. Wt. Lbs.	Price Each
P-3-91	3	133	**$110.00**
P-4-91	4	152	**131.00**
P-5-91	5	171	**154.00**
P-6-91	6	195	**178.00**
P-7-91	7	204	**200.00**
P-8-91	8	233	**221.00**
P-9-91	9	252	**243.00**
P-10-91	10	271	**264.00**

Cat. No.	Lamp Rows	Shpg. Wt. Lbs.	Price Each
S-3-91	3	99	**$105.00**
S-4-91	4	116	**126.00**
S-5-91	5	135	**149.00**
S-6-91	6	159	**173.00**

Cat. No.	Lamp Rows	Shpg. Wt. Lbs.	Price Each
M-3-91	3	88	**$86.00**
M-4-91	4	107	**108.00**
M-5-91	5	126	**130.00**
M-6-91	6	150	**154.00**
M-7-91	7	169	**176.00**
M-8-91	8	188	**198.00**
M-9-91	9	207	**219.00**
M-10-91	10	226	**241.00**

EXTRA LAMP ROW UNITS



For "Special Applications" Where No Stands Are Required. These individual lamp rows may be attached to all oven sections.

Specifications

48"—Overall length.
8½"—Width of each lamp row.
9 —Lamp sockets per row.

Cat. No.	Lamp Rows	Shpg. Wt. Lbs.	Price Each
E-1-91	1	20	**$21.50**
E-2-91	2	39	**43.00**
E-3-91	3	58	**64.50**
E-4-91	4	77	**86.00**

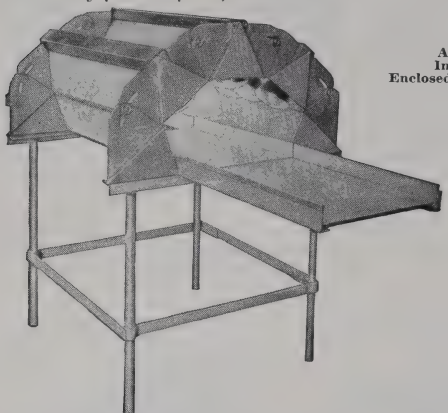
Cat. No.	Lamp Rows	Shpg. Wt. Lbs.	Price Each
E-5-91	5	96	**$107.50**
E-6-91	6	115	**129.00**
E-7-91	7	134	**150.50**
E-8-91	8	153	**172.00**

ROLLER-TRAY-PATENT-FLEX OVENS

PUSH-THRU ROLLER TRAYS AND CONVEYOR TRACK GIVES CONVEYORIZED PRODUCTION RESULTS WITHOUT COSTLY CONVEYOR EQUIPMENT

These Ovens are ideally suited for high production of small parts, and medium production of larger sized parts. Determining the size of the oven required is done by finding the time needed for painting and filling one roller tray with parts to be baked. For example: if the parts are small, and two minutes time is required to fill the tray and push it into the oven, then the trays will be pushed through the oven at 1 ft. per minute. Thus a 48-inch long oven will bake these parts for four minutes. If eight minutes baking time is required, then in order to obtain maximum production efficiency a 96-inch oven should be ordered. These ovens have asbestos insulating panels for maximum heat conservation.

All ovens are provided with enough roller trays to fill the oven, plus two extra trays, one for filling with newly painted parts, while the other is having finished parts unloaded.



The above RT-3-16 Oven is shown with heat conserving end baffles removed, showing how the roller trays travel straight through the oven.

Asbestos Insulated Enclosed Construction

Showing No. RT-4-24 Oven with heat conserving baffles installed at the oven entrance. These baffles are medium weight zinc coated steel, to permit easy cutting so that the user can enlarge the oven opening to a shape best suited to the product being baked.

Suggested Applications

HEATING
Punch Press Blanking of hot bakelite sheets.
Heat expansion assembly of close fitting parts.
Degreasing and Tar melting.
Hot forming of Plastic Sheets.

WATER EVAPORATION
Drying of Electroplated parts.
Lithograph Plates.
Photographic Film.
Wax Emulsion Finishes.
Glue Drying.

PAINT BAKING
Highway Road Signs.
Silk Screen printing.
Lacquered metal parts (to prevent blushing).
Synthetic Enamel baking.
Coil and Armature baking.

These ovens are ideally suited to the manufacturer having a specialized need for an efficient low cost and moderate sized installation. Electroplaters, Paint manufacturers, testing laboratories, scientific instrument manufacturers, production sign painting, and all manufacturers having products of limited demand, which does not warrant power conveyorizing. Ovens are asbestos insulated for max. heating efficiency.

Uses R-40 Type Long-Life Hermetically Sealed Reflector Lamps for Maximum Efficiency (Lamps Not Included)

EACH CHANNEL LAMP ROW IS EQUIPPED WITH A TOGGLE SWITCH AND ALL SOCKETS ARE WIRED WITH ASBESTOS WIRE, WITH 8-INCH LEADS FOR EASY CUSTOMER CONNECTION TO POWER SUPPLY, EITHER THRU FLEXIBLE GREENFIELD OR PORTABLE EXTENSION CORD.

DIMENSIONS APPLYING TO BOTH 3 AND 4 ROW OVENS

Oven Length	Track Length	No. of 16" Trays Supplied
24"	6 ft.	3—24" long
32"	8 ft.	3—32" long
48"	8 ft.	4—24" long
96"	12 ft.	6—24" long
144"	16 ft.	8—24" long

THREE LAMP ROW OVENS
For baking parts not exceeding 5 inches in height

Cat. No.	Lamps	Price
RT-3-12	12	**$130.00**
RT-3-16	16	**148.00**
RT-3-22	22	**167.00**
RT-3-44	44	**297.00**
RT-3-66	66	**425.00**

FOUR LAMP ROW OVENS
For baking parts not exceeding 10 inches in height

Cat. No.	Lamps	Price
RT-4-14	14	**$145.00**
RT-4-20	20	**166.00**
RT-4-24	24	**188.50**
RT-4-48	48	**340.00**
RT-4-72	72	**488.00**

LARGER TRAY WIDTH OVENS

Two or more of the above listed oven sections can be assembled end to end to provide a continuous oven of longer length.

Larger tray ovens can be supplied for handling work up to 48 inches wide. Price on application.

These Ovens can be supplied without floor stands, which permits them to be installed on the back of assembly benches, etc.

Conveyor track is standard angle iron construction, which easily permits additional length to be added to suit the individual users requirements.

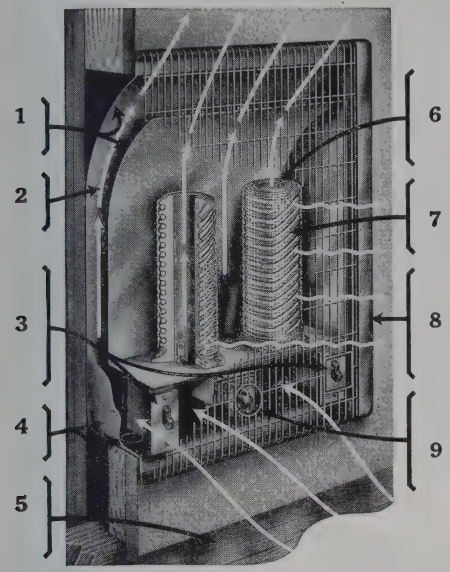
PRICES FOR EXTRA ROLLER TRAYS

These Roller Trays are equipped with 2¼-inch diameter x ⅛-inch solid steel wheels mounted on a $\frac{13}{32}$-inch diameter chrome alloy steel ball bearing for easy rolling. The large diameter of the wheel, together with it's narrow width insures easy rolling contact with the conveyor track. The tray is so constructed that the wheels are fully shielded to prevent paint from coming in contact with them.

Cat. No.	Size	Price	Std. Pkg.
T-16-24	16x24	**$7.90**	4
T-16-32	16x32	**8.40**	4

WESIX AUTOMATIC ROOM HEATERS

FLUSH TYPE



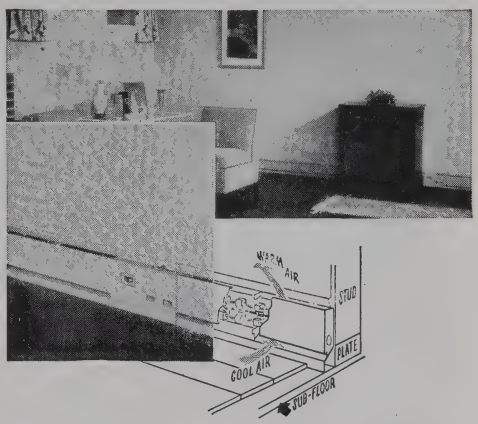
1. Heat Deflectors direct heated air into room away from wall.
2. Secondary Air Flow prevents heat loss into wall by circulating it into room—keeps wall cool.
3. Two or Three Heat Control. Two manual toggle switches, each operating one or more elements, depending on size of furnace.
4. Terminal Posts — Knockouts provide safe, solderless connections.
5. Low Mounting — Warm Floors. Tempered air is drawn off the floor into the bottom of the furnace unit, warmed, and directed into the room.
6. "Electric Chimney" provides warm air circulation at about 200 feet per minute — the ideal velocity for even heat with no cold drafts.
7. Cradled Coil. Heating coil is supported for its entire length in ceramic grooves—lasts indefinitely.
8. Hammertone Finish. Handsome, heavy frame blends with modern interiors. Standard finish Hammertone Bronze.
9. Patented Bi-Metal Thermostat. Most accurate temperature control—placed inside heater in incoming airstream. Automatic, adjustable, positive—long life.

Cat. No.	Watts	Opening, Inches — Width of Wall	Opening, Inches — Height of Wall	Approx. Shipping Wt. Lbs.
12WF*	1250	9⅞	20¼	17
16WF*	1666	14¼	20¼	22
20WF	2000	14¼	20¼	22
25WF	2500	19½	20¼	25
30WF	3000	22¾	20¼	30
40WF	4000	29	20¼	40
50WF	5000	35⅝	20¼	50
60WF	6000	41½	20	70
70WF	7000	47⅞	20	95
80WF	8000	54¼	20	100

*Also available in 120 volts A.C.

All Catalog Nos. — Approximate wall opening depth 4 inches. Frame width 1⅜ in., frame depth 1⅜ in. Standard finish Wesix Hammertone Bronze. Standard voltage 240 A.C. Fully guaranteed against factory defects.

WESIX ELECTRIC BASEBOARD



The newly designed Wesix Electric Baseboard requires no metal fitting on the job. Installation is made using two standard lengths designed to fit any size room with sufficient capacity to maintain a temperature difference of 70 degrees F. between indoors and outdoors.

Features: Double Wall Construction—Prevents heat from entering wall. Compact—5 inches high; 1⅝ inches deep overall. Automatic Control—Built-in thermostat for each room. Baffled Open Coils —Quick heat, rapid air circulation.

Engineered to maximum surface temperature of 130 degrees F., the units are rated at 100 watts per linear foot and operate on 240 volts.

Baseboard

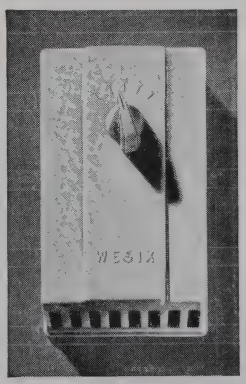
Cat. No.	Watts	Volts	Length — Feet	Length — Inches	Shpg. Wt. Lbs.
BB 32	280	240	2	8	20
BB 48	420	240	4	0	25

Controls

BBSKS	(Thermostat and Switch	8	5

Accessories

Corner Piece	1¼	1
Extra End Piece	.....	½



WESIX WALL THERMOSTAT

Wesix Wall Thermostats are rated 30 amperes at 250 volts. Maximum 3 degrees F. variation between on and off. Pure silver contacts, positive action.

- High Sensitivity
- High Capacity
- Long Life
- No Arcing

Fits any standard switch box or conduit box. Ivory or walnut plastic case.

No. **DB-30-E**, 250 volts A.C., 30 amperes. Fits any standard switch box or conduit box; single pole, double throw.

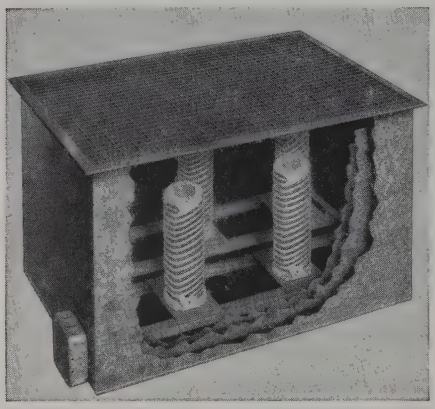
No. **DBDT-30-E**, 250 volts A.C., 30 amperes; single pole, double throw.

No. **DBDT-0**, 250 volts A.C., 30 amperes, single pole, double throw. For locations outdoors, equipped with weatherproof cover.

WESIX AUTOMATIC FLOOR FURNACE

For Residences, Apartments, Stores

Listed by Underwriters' Laboratories, Inc.

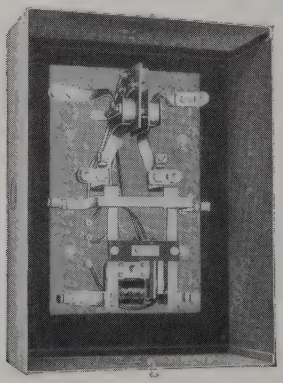


Designed to give safe and clean heating at a minimum cost including installation. The furnace has three baffles to prevent loss of radiant heat and provide high velocity natural circulation. Rugged Wesix "built-in" thermostat prevents overheating and waste of electric energy. Heating units are the famous Wesix Chimney Core designed for rapid circulation of air with low element temperature. Two double pole toggle switches for wall mounting are furnished with each Floor Furnace. Standard voltage 230/240 AC.

Cat. No.	Kilowatts	Floor Opening Inches	Grille Overall Inches
30FF	3	14¼ x 24¼	16 x 26
40FF	4	14¼ x 28¼	16 x 30
50FF	5	14¼ x 30¼	16 x 32
80FF	8	20¼ x 30¼	22 x 32

WESIX AUTOMATIC LOAD REGULATOR

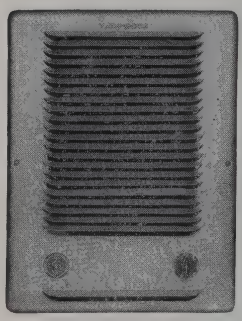
Automatic Capacity Control and Higher Load Factors for All-Electric Homes and Apartments



Data and Prices on Application

THERMADOR ELECTRIC FAN TYPE HEATERS

MASTER DUTY WALL HEATERS — FAN TYPE



The fan makes this unit a heater in winter or a fan in summer.

Manual Control Heaters are equipped with a range type switch, one full-heat, one half-heat, and one cool fan (except the 2000-watt heater, which has one full-heat and the cool-fan). Features include a special induction motor, 16-in. blade fan, thermal protection device and a special louvre designed grille.

For all Master Duty Heaters the frame dimensions are: Height 21¼"; width 16"; from wall to end of louvre 2". Wall box is 18⅞" high, 14⅛" wide and 4" deep. Four extension ears provide mounting to studs.

Finishes: Lustrous hammertone effect in Desert Sand or can be painted on job to color-harmonize with walls.

230 Volts A.C. — 50 or 60 Cycles — Single Phase

Manual Control			Thermostatic Control		
Cat. No.	Watts	Price Each	Cat. No.	Watts	Price Each
W202U	2000	**$62.70**	**WA202U**	2000	**$77.10**
W302U	3000	**69.80**	**WA302U**	3000	**85.00**
W402U	4000	**75.90**	**WA402U**	4000	**90.80**

MHF MASTER DUTY FAN TYPE PORTABLE ELECTRIC HEATERS

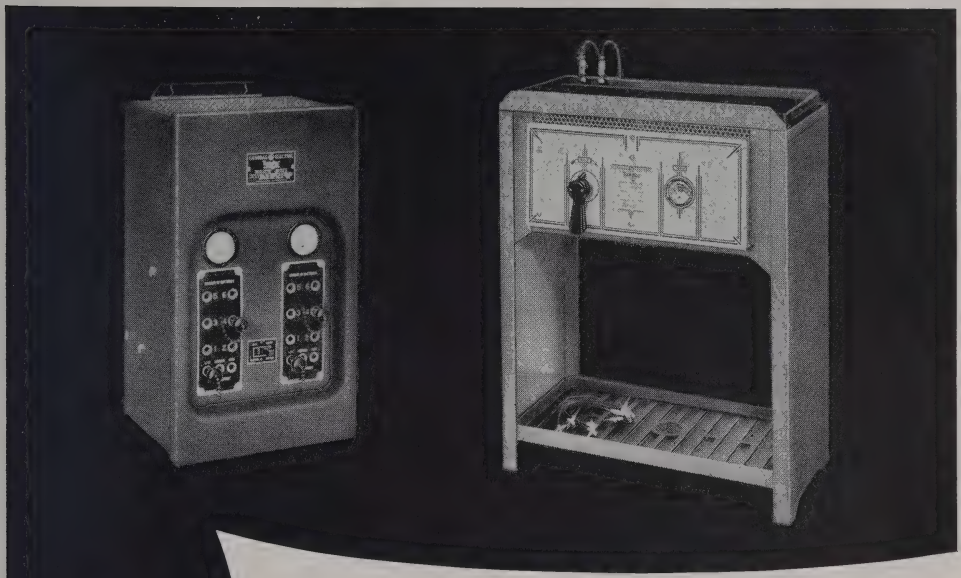
For quick warmth on cool days, for cool and healthful circulation of air in summer —for every day in the year the Thermador Heaters offer air-tempering comfort at the click of a switch.

Equipped with 4-position reciprocating switch, giving cool fan, half heat, full heat and off with one switch.

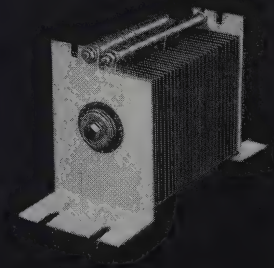
Lustrous hammertone finish in Desert Sand. 19½ inches high; 14¼ inches wide; 7⅞ inches deep.

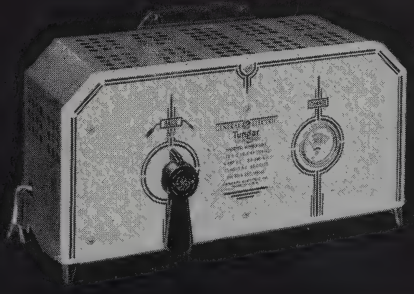
Manual Control				Thermostatic Control	
Cat. No.	Watts	Volts	Price Each	Cat. No.	Price Each
MHF 302	3000	230 AC	**$49.95**	**MHF 302A**	**$61.55**
MHF 402	4000	230 AC	**55.75**	**MHF 402A**	**67.35**
MHF 502	5000	230 AC	**59.95**	**MHF 502A**	**72.00**

All prices include government excise tax.



GE rectifier products

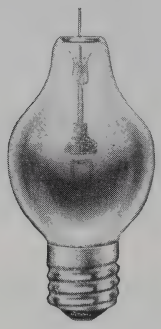




*TUNGAR RECTIFIER BULBS

G-E Tungar rectifier bulbs are manufactured of the finest material available and are laboratory-tested before being used. These bulbs were first developed almost thirty years ago, and constant research has improved their design, increased their efficiency, and trebled their operating life.

Tungar bulbs make possible an excellent d-c power supply, free from noise and vibration. They operate with a very low voltage drop and consequent high over-all efficiency of the equipment with which they are used. Tungar bulbs are ideal for battery chargers ranging in size from the small, home type to the large, garage type which handles several batteries.



Bulb Cat. No.	Dimensions in Inches		Socket Cat. No.	Recommended Max. Output		Price, Each
	Max. Lgth	Max. Diam		D-c Amp	D-c Volts	
Argon, Half-wave						
12X825	4¼	2⅛	278768	2.0	75	**$ 5.50**
189048	7	3	217967	6.0	60	**6.00**
189049	7	3	217967	6.0	90	**6.00**
206501	4¼	2⅛	Std. Edison	2.0	75	**5.50**
217283	8⅝	3¾	217967	15.0	60	**12.00**
Mercury-argon, Full-wave						
20X672	4⅝	2⅛	3778926	5.0	20	**7.00**
76X13	9¼	3½	217967	20.0	75	**18.00**
99X44	7	3	217967	10.0	25	**7.00**
99X45	9¼	3½	217967	20.0	25	**18.00**
Mercury-argon, Half-wave						
16X897	6	2⅛	5556072G1	2.0	250	**15.00**
45X674	7⅜	3⅛	5556072G1	6.0	250	**18.00**

FARM AND HOME CHARGERS

Model No.	Capacity	A-c Volts	Cycles	D-c Amp	Price, Each
6RS937A1	3 cells	115	60	7-4	**$21.50**
6RS937A2	3 cells	115	60	12-7	**30.00**

These selenium-rectifier chargers are small and very lightweight. They can be shelf- or wall-mounted, or placed on the garage floor, the car floor, etc., and will charge the battery without removing it from the car, truck, or tractor.

The "Overnite" charger will charge the average discharged battery in 12 hours or less. The "One Day" charger will charge the average normally run-down car battery in 24 hours or less.

Cat. No. 6RS937A2 "Overnight" battery charger for 3 cells, 6 volts, 12 amp

BATTERY VITALIZER

The G-E Battery Vitalizer provides a simple means for the car owner to keep his battery fresh and chemically active during cold winter nights. Under normal conditions, the use of the Vitalizer will give better starting power when he steps on the starter in the morning.

The Vitalizer is easy to use. No troublesome connections are necessary. A motorist simply hangs the Vitalizer on the steering wheel. One plug goes into the dashboard lighter receptacle, another in any 115-volt, 60-cycle, a-c supply.

Model No.	Description	Price, Each
6RS934A1	Green (positive-grounded battery).....	**$9.95†**
6RS934A2	Blue (negative-grounded battery).....	**9.95†**

*Registered trade-mark of General Electric Co. † Plus tax

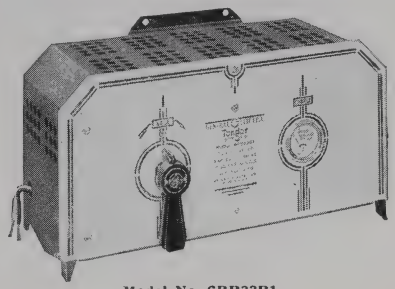
Battery Vitalizer

HALF-WAVE *TUNGAR BATTERY CHARGERS

Ratings and Prices

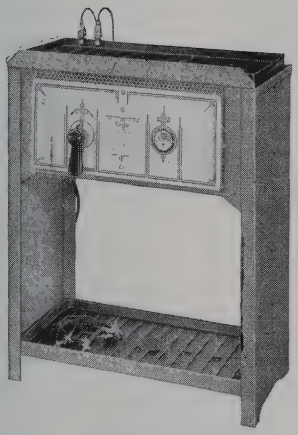
Model No.	Battery Capacity		A-c Volts	Cycles	Price, Each
	Quantity of 3-cell 6-volt	Quantity of 6-cell 12-volt			
Autotransformer					
6RB33B1	1 to 6	1 to 3	105/125	60	**$61.00**
6RB33B2	1 to 12	1 to 6	105/125	60	**67.00**

These efficient, sturdy Tungar chargers have an adjustable charging rate of from 2 to 6 amperes. They are suitable for use by repair shops, car dealers, garages, service stations, tire dealers, airports, etc.



Model No. 6RB33B1

FOUR- AND SIX-BATTERY SHOPS



Model No. 6RB38B1

Half-wave Tungar battery chargers are used mainly in small service stations where floor space is at a premium.

The complete charging unit, connectors, jumpers, and the six batteries to be charged take up a floor area of only two and one-half square feet.

Both models operate on 115-volt, 60-cycle a-c, and deliver 6 d-c amperes.

Model No.	Capacity, Quantity of 3-cell Batteries	Price, Each
6RB88B1	4	**$58.00**
6RB38B1	6	**70.00**

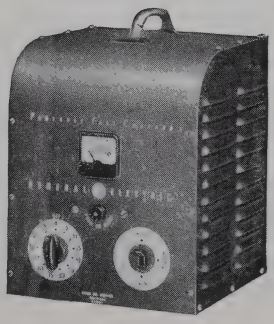
PORTABLE FAST-CHARGER

The G-E portable Fast-Charger is an efficient, lightweight, selenium-rectifier charger for use in garages, service stations, and repair shops. Since its weight is only 34 lb, it can easily be carried from one car to another.

The portable Fast-Charger plugs into any standard 115-volt, a-c outlet. It is furnished with long, heavy-duty leads. It draws 12.5 amperes and has an output of 80 amperes. Maximum output can be maintained for long periods.

Price, $133.00

Model No. 6RS941F1



*Registered trade-mark of General Electric Co.

FULL-WAVE *TUNGAR BATTERY CHARGERS

The "6-12" full-wave battery charger is a medium-capacity, fast, economical charger that will handle six 6-volt batteries at 12 amperes or twelve 6-volt batteries at 6 amperes, or the equivalent. The charging rate is adjustable from 2 to 12 amperes for 3 to 18 cells, and from 2 to 6 amperes for 3 to 36 cells.

The "12-24" full-wave battery charger is a heavy-duty charger that will give fast, one-day charging to meet the exacting requirements of the busiest battery department. This charger will handle twenty-four 6-volt batteries at 6 amperes, or twelve batteries at 12 amperes, or the equivalent. The charging rate is adjustable from 2 to 6 amperes for 3 to 72 cells and from 2 to 12 amperes for 3 to 36 cells.

Model No. 6RB6B1 "6-12" full-wave battery charger

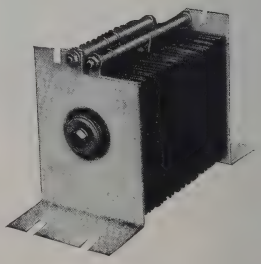
Model No.	A-c Volts	Cycles	Price, Each
	"6-12" Charger—Autotransformer		
6RB6B1	105/125	50/60	$133.00
	"12-24" Charger—Autotransformer		
6RB6B5	105/125	50/60	157.00

RECTIFIER STACKS

General Electric rectifier stacks are efficient, economical devices for converting alternating current into direct current. These stacks are simple and strong in construction. There are no moving parts to wear out. Rectifiers of any desired voltage and current may be assembled from the various-sized cells.

General Electric manufactures copper-oxide, selenium, high-voltage selenium, and oil-immersed selenium stacks.

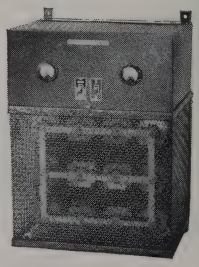
Ratings and prices are available on application.



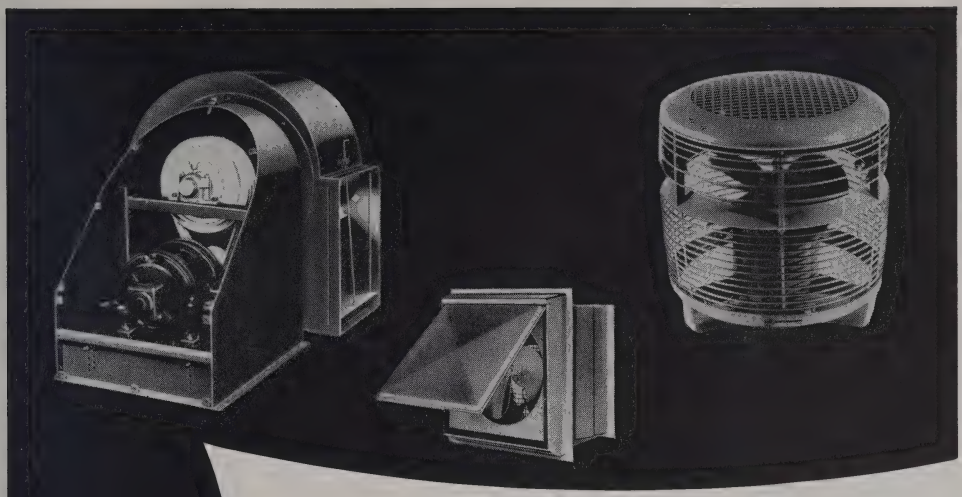
GENERAL-PURPOSE CHARGERS

G-E copper-oxide, fully automatic battery chargers are designed for 12-, 24-, or 60-cell lead-acid batteries. The 12- and 24-cell chargers are suitable for use with PBX telephone exchanges in manufacturing plants, schools, hospitals, office buildings, state institutions, and small public exchanges. The 60-cell chargers can be used for batteries in central stations and substations, emergency lighting, and similar service.

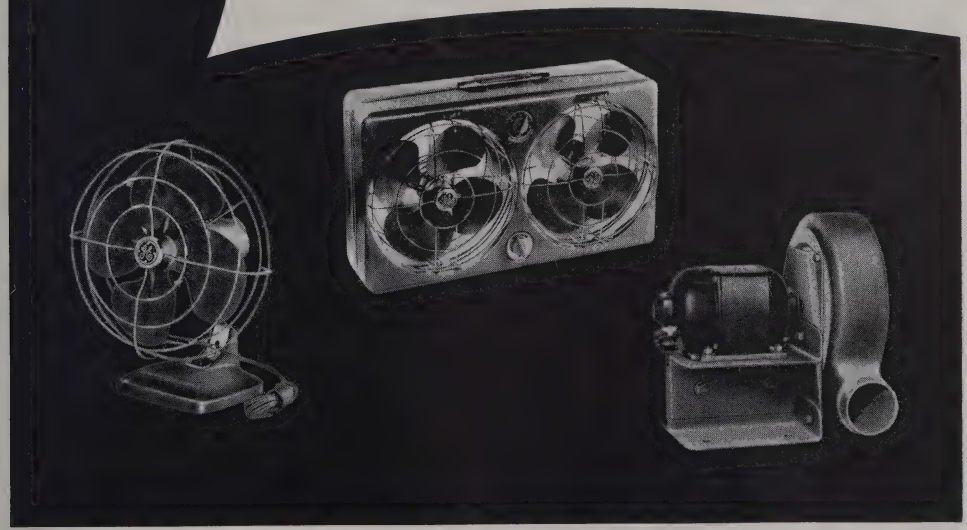
Prices and ratings are available on application.



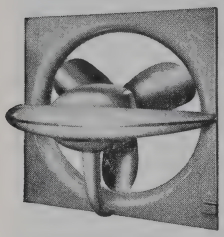
*Registered trade-mark of General Electric Co.



fans, blowers and ventilating equipment



AMERICAN BLOWER VENTURA FANS

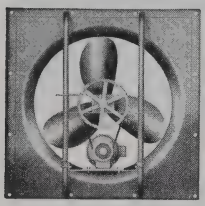


Model A

An attractive streamlined propeller fan with smooth flowing lines which harmonizes with the architectural motif of modern business establishments.

Built in 12 sizes.....10A to 97A
Capacities.....1000 cfm to 9700 cfm, free delivery

For capacity tables and dimensions, see a following page.



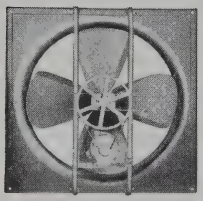
Model B

An efficient, economical propeller fan with V-belt drive for commercial and industrial installations.

Built in 8 sizes.....71B to 550B
Capacities.....7100 cfm to 55,000 cfm, free delivery

Sizes 290B, 366B and 550B are of the same general appearance as the Model E fan, sizes 415E, 550E and 790E.

For capacity tables and dimensions, see a following page.

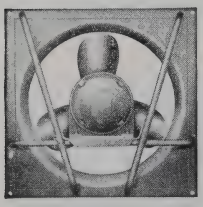


Model C

An attic fan for comfort cooling homes, hotels and apartment buildings where quiet operation is essential.

Built in 8 sizes.....43C to 215C
Capacities.....4300 cfm to 21,500 cfm, free delivery

For capacity tables and dimensions, see a following page.

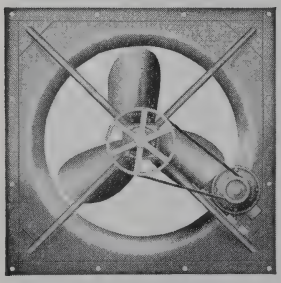


Model D

An industrial type high powered propeller fan with direct drive motor designed to operate against maximum static pressures of ½ inch.

Built in 6 sizes.....15D to 120D
Capacities.....1500 cfm to 12,000 cfm, free delivery
400 cfm to 8900 cfm at ½ inch S.P.

For capacity tables and dimensions, see a following page.



Model E

An industrial type high powered propeller fan, V-belt driven to operate against maximum static pressures of ⅜ inch.

Built in 8 sizes.....79E to 790E
Capacities.....7900 cfm to 79,000 cfm, free delivery
5860 cfm to 65,000 cfm at ⅜ inch S.P.

Sizes 79E, 110E and 165E are of the same general appearance as the Model B Fan, sizes 71B, 104B and 136B.

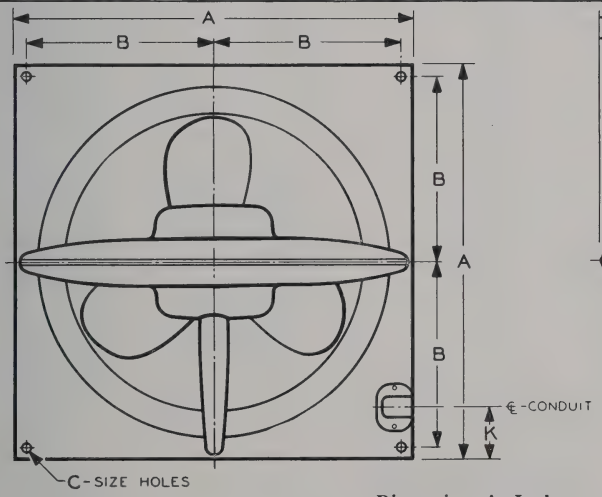
For capacity tables and dimensions, see a following page.

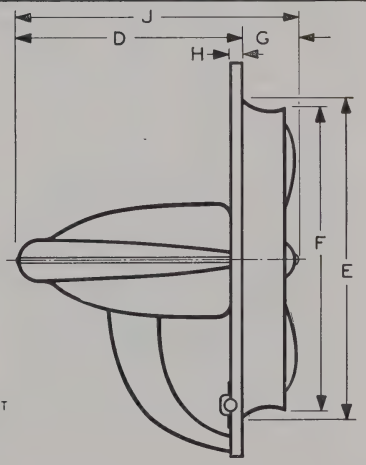
Air Deliveries are in accordance with Standard Test Code for Centrifugal and Propeller Fans adopted jointly by the National Association of Fan Manufacturers and American Society of Heating and Ventilating Engineers.

AMERICAN BLOWER VENTURA FANS
Model A—Direct Drive

SINGLE SPEED 60 CYCLE 115 or 230V.—SINGLE PHASE						
Catalog No.	C.F.M. Free Delivery	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx. Shipping Wt., Lbs.
10A	1000	1150	1/20	12″	58	35
15A	1500	1725	1/12	12″	65	36
20A	2000	1150	1/12	16″	61	60
26A	2600	1150	1/8	18″	62	70
30A	3000	1725	1/4	16″	69	70
36A	3600	1150	1/6	20″	63	83
40A	4000	1725	1/3	18″	72	85
45A	4500	860	1/6	24″	66	122
50A	5000	1150	1/4	24″	73	115
60A	6000	1150	1/3	24″	74	120
72A	7250	860	1/3	30″	71	170
97A	9700	1150	3/4	30″	77	195

TWO SPEED 60 CYCLE 115 or 230V.—SINGLE PHASE						
Catalog No.	C.F.M. Free Delivery	R.P.M. High	R.P.M. Low	Motor H.P.	Nominal Wheel Diameter	Decibel Rating High / Low	Approx. Shipping Wt., Lbs.
15A	1500	1725		1/12	12″	65 / 58	**36**
	1000	1150					
30A	3000	1725		1/4	16″	69 / 61	**70**
	2000	1150					
36A	3600	1150		1/6	20″	63 / 57	**83**
	2690	860					
40A	4000	1725		1/3	18″	72 / 62	**85**
	2600	1150					
50A	5000	1150		1/4	24″	73 / 66	**115**
	3740	860					
97A	9700	1150		3/4	30″	77 / 71	**195**
	7250	860					





Dimensions in Inches

Catalog Number	A	B	C	D	E	F	G	H	J	K
10A	16	7 5/8	7/16	11 3/8	14 1/2	12 1/2	2 1/4	3/4	13 5/8	2 1/4
15A	16	7 5/8	7/16	11 3/8	14 1/2	12 1/2	2 1/4	3/4	13 5/8	2 1/4
20A	22	10 1/2	7/16	12 3/4	19 1/2	16 5/8	3	3/4	15 3/4	3
26A	24	11 1/2	7/16	15	22 1/2	18 1/2	3 1/8	1	18 1/8	3 1/2
30A	22	10 1/2	7/16	12 3/4	19 1/2	16 5/8	3	3/4	15 3/4	3
36A	26 1/2	12 3/8	7/16	15	24	20 1/4	3 3/4	1	18 3/4	3 1/2
40A	24	11 1/2	7/16	15	22 1/2	18 1/2	3 1/8	1	18 1/8	3 1/2
45A	31	14 5/8	9/16	15 1/2	27 3/4	25 3/8	3 7/8	1 1/4	19 3/8	3 1/2
50A	31	14 5/8	9/16	15 1/2	27 3/4	25 3/8	3 7/8	1 1/4	19 3/8	3 1/2
60A	31	14 5/8	9/16	15 1/2	27 3/4	25 3/8	3 7/8	1 1/4	19 3/8	3 1/2
72A	36	17 1/8	9/16	18 1/8	33 3/8	30 3/8	4 5/8	1 1/4	22 3/4	3 1/2
97A	36	17 1/8	9/16	18 1/8	33 3/8	30 3/8	4 5/8	1 1/4	22 3/4	3 1/2

Sound level ratings of all Propeller Fans are in accordance with the National Association of Fan Manufacturers Sound Measurement Test Code.

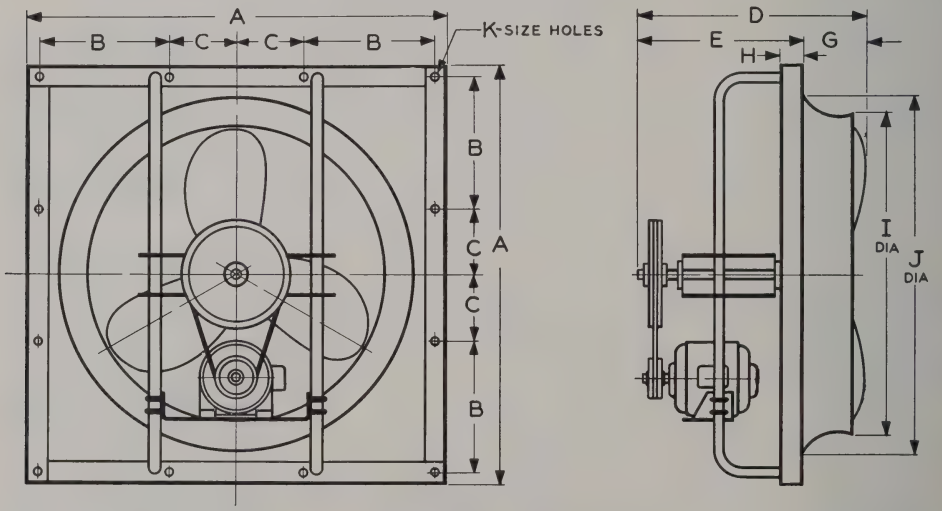
AMERICAN BLOWER VENTURA FANS

Model B—V-Belt Drive

Capacity Table

SINGLE SPEED 60 CYCLE 115 or 230 VOLTS							SINGLE SPEED 50 CYCLE or 25 CYCLE or DIRECT CURRENT						
Catalog No.	C.F.M. Free Delivery	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx. Shipping Wt., Lbs.	Catalog No.	C.F.M. Free Delivery	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx. Shipping Wt., Lbs.
71B	7,100	1065	½	24″	73	140	**71B**	7,100	1065	½	24″	73	152
104B	10,400	896	¾	30″	75	200	**104B**	10,400	896	¾	30″	75	215
136B	13,600	643	¾	36″	73	260	**136B**	13,600	643	¾	36″	73	275
171B	17,100	480	¾	42″	72	320	**171B**	17,100	480	¾	42″	72	335
222B	22,200	430	1	48″	74	380	**222B**	22,200	430	1	48″	74	430
290B	29,000	413	1½	54″	76	610	**290B**	29,000	413	1½	54″	76	640
366B	36,600	384	2	60″	78	745	**366B**	36,600	384	2	60″	78	780
550B	55,000	315	3	72″	80	1080	**550B**	55,000	315	3	72″	80	1130

Note: Sizes 290B, 366B and 550B are of the same general appearance as the 415E, 550E and 790E show on a following page.



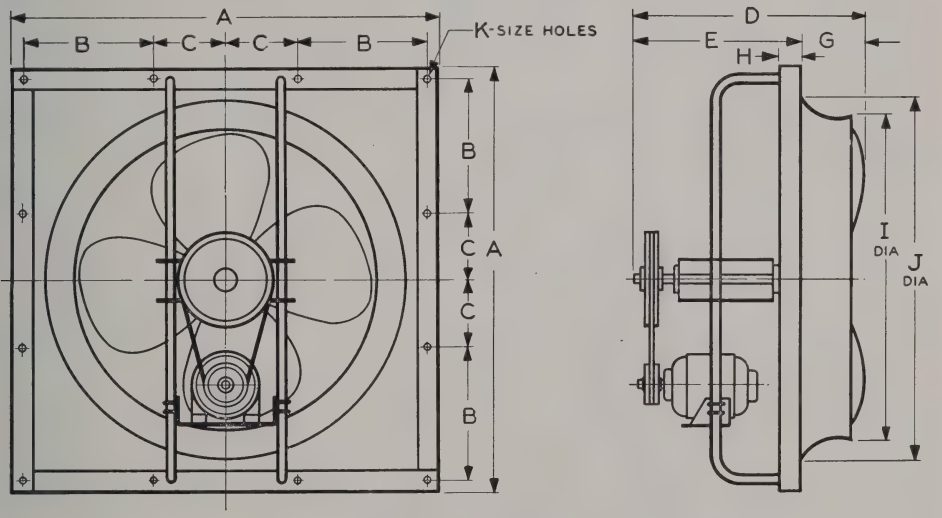
Dimensions in Inches

Catalog Number	A	B	C	D	E	G	H	I	J	K
71B	31	14½	—	20¼	15	5¼	1½	24⅝	28⅝	9/16
104B	36	17	—	21¼	15⅜	5⅞	1½	30⅜	33½	9/16
136B	46	9⅞	12	24	16⅛	7⅞	2	37⅛	41⅝	¾
171B	54	13⅞	12	28¼	19¼	9	2	44	48⅝	¾
222B	60	16⅞	12	30¼	20¾	9½	2	49¾	54⅜	¾
290B	70	20	13⅝	30¼	20⅜	9⅞	2	55	59½	¾
366B	76	20	16⅝	33⅛	22⅝	10½	2	60⅝	65¼	¾
550B	90	25	18⅝	36	24¼	11¾	2	73⅞	78⅜	¾

AMERICAN BLOWER VENTURA FANS
Model C—V-Belt Drive

Capacity Table

SINGLE SPEED 60 CYCLE 115 or 230 VOLTS							SINGLE SPEED 50 CYCLE or 25 CYCLE or DIRECT CURRENT						
Catalog No.	C.F.M. Free Delivery	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx. Shipping Wt., Lbs.	Catalog No.	C.F.M. Free Delivery	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx. Shipping Wt., Lbs.
43C	4,300	530	1/6	24″	61	109	43C	4,300	530	1/6	24″	61	115
70C	7,000	448	1/4	30″	63	160	70C	7,000	448	1/4	30″	63	170
100C	10,000	338	1/4	36″	63	220	100C	10,000	338	1/4	36″	63	230
130C	13,000	258	1/4	42″	62	280	130C	13,000	258	1/4	42″	62	295
143C	14,300	284	1/3	42″	64	290	143C	14,300	284	1/3	42″	64	305
160C	16,000	326	1/2	42″	67	310	160C	16,000	326	1/2	42″	67	325
190C	19,000	266	1/2	48″	65	355	190C	19,000	266	1/2	48″	65	375
215C	21,500	298	3/4	48″	68	365	215C	21,500	298	3/4	48″	68	385



Dimensions in Inches

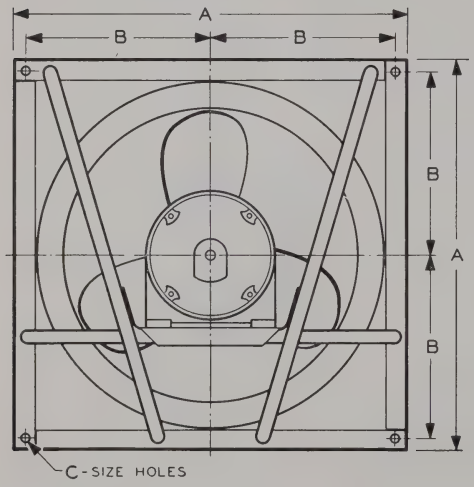
Catalog Number	A	B	C	D	E	G	H	I	J	K
43C	31	14 1/2	—	20 3/4	14 1/2	6 1/4	1 1/2	24 3/4	28 5/8	9/16
70C	36	17	—	22 1/8	15 1/8	7	1 1/2	30 3/8	33 1/2	9/16
100C	46	13 3/4	8 1/8	25 1/4	16 3/4	8 1/2	1 1/2	37 1/8	41 5/8	3/4
130C	54	15 1/2	10 3/8	29 1/8	20 1/4	8 7/8	1 1/2	44	48 1/2	3/4
143C	54	15 1/2	10 3/8	29 1/8	20 1/4	8 7/8	1 1/2	44	48 1/2	3/4
160C	54	15 1/2	10 3/8	29 1/8	20 1/4	8 7/8	1 1/2	44	48 1/2	3/4
190C	60	18 1/2	10 3/8	32	21	11	1 1/2	50	55 5/8	3/4
215C	60	18 1/2	10 3/8	32	21	11	1 1/2	50	55 5/8	3/4

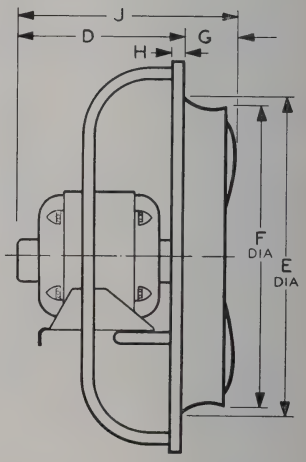
AMERICAN BLOWER VENTURA FANS
Model D—Direct Drive

Capacity Table

Catalog No.	C.F.M. AT S.P. 0″	⅛″	¼″	⅜″	½″	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx.† Shipping Wt., Lbs.
SINGLE SPEED — 60 CYCLE or D. C. — 115 or 230 VOLTS										
15D	1500	1280	1050	710	400	1725	⅙	12″	65	47
30D	3000	2800	2520	2220	1800	1725	⅓	16″	69	69
40D	4000	3800	3520	3190	2840	1725	½	18″	72	97
55D	5500	5120	4820	4500	4160	1725	¾	20″	75	102
85D	8500	7850	7150	6450	5650	1150	1	24″	73	125
120D	12000	11200	10500	9700	8900	1150	1½	30″	78	160
SINGLE SPEED — 50 CYCLE or 25 CYCLE — 115 or 230 VOLTS										
15D	1260	1000	650	220	—	1450	⅙	12″	62	47
30D	2620	2260	1910	1420	—	1450	¼	16″	66	69
40D	3360	3095	2720	2310	—	1450	⅓	18″	69	85
55D	4620	4190	3820	3430	—	1450	½	20″	72	99
85D	10700	10200	9640	9100	8560	1450	2	24″	78	163
120D	15100	14475	13850	13300	12700	1450	3	30″	83	210

†Weights of 25 cycle fans, slightly higher.





Dimensions in Inches

Catalog Number	A	B	C	D	E	F	G	H	J
15D	16	7⅜	7/16	11⅝	14½	12½	3	¾	14⅝
30D	22	10¼	7/16	12¾	19½	16⅝	3¾	¾	16½
40D	24	11⅛	7/16	13½	21¼	18½	4½	1	17¾
55D	26½	12⅜	7/16	13¼	24	20¼	4⅝	1	17⅞
85D	31	14⅝	9/16	14¼	27¾	25⅜	5½	1¼	19¾
120D	36	17⅛	9/16	14⅛	33⅜	30⅜	6¼	1¼	20⅜

AMERICAN BLOWER VENTURA FANS
Model E—V-Belt Drive

Capacity Table

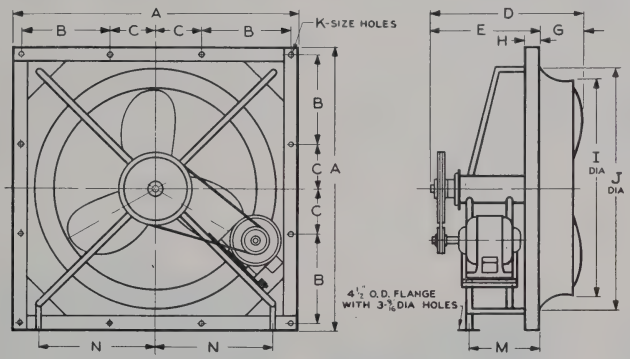
SINGLE SPEED — 60 CYCLE — 115 or 230 VOLTS

Catalog No.	C.F.M. AT S.P. 0″	⅛″	¼″	⅜″	Fan R.P.M.	Motor H.P.	Nominal Wheel Diameter	Decibel Rating	Approx. Shipping Wt., Lbs.
79E	7900	7250	6600	5860	1170	¾	24″	75	155
110E	11000	9980	9000	7950	950	1	30″	76	215
165E	16500	15100	13700	12200	780	1½	36″	78	300
226E	22600	20800	18750	16400	640	2	42″	79	470
310E	31000	28700	26200	23300	595	3	48″	81	525
415E	41500	39200	36600	33600	595	5	54″	84	715
550E	55000	51900	48900	46000	575	7½	60″	86	870
790E	79000	74500	70200	65000	455	10	72″	87	1245

SINGLE SPEED — 50 CYCLE, 25 CYCLE or DIRECT CURRENT

79E	7900	7250	6600	5860	1170	¾	24″	75	165
110E	11000	9980	9000	7950	950	1	30″	76	225
165E	16500	15100	13700	12200	780	1½	36″	78	315
226E	22600	20800	18750	16400	640	2	42″	79	495
310E	31000	28700	26200	23300	595	3	48″	81	550
415E	41500	39200	36600	33600	595	5	54″	84	750
550E	55000	51900	48900	46000	575	7½	60″	86	910
790E	79000	74500	70200	65000	455	10	72″	87	1300

Note: Sizes 79E, 110E and 165E are of the same general appearance as the 71B, 104B and 136B shown on a preceding page.



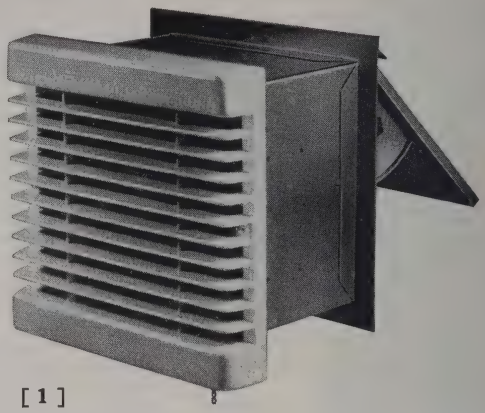
Dimensions in Inches

Catalog Number	A	B	C	D	E	G	H	I	J	K	M	N
79E	31	14½	—	20¼	15	5¼	1½	24⅝	28⅝	⅜	—	—
110E	36	17	—	23⅜	17½	5⅞	1½	30⅜	33½	⅜	—	—
165E	46	9⅞	12	25¾	17⅞	7⅞	2	37⅛	41⅜	¾	—	—
226E	54	13⅞	12	28¼	19⅜	8⅞	2	44	49	¾	11½	23½
310E	60	16⅞	12	30	20½	9½	2	49¾	54½	¾	12¼	26½
415E	70	20	13⅝	39⅝	29¾	9⅞	2	55	59½	¾	19¾	30¾
550E	76	20	16⅝	42⅛	31⅝	10½	2	60⅝	65¼	¾	21½	33¾
790E	90	25	18⅝	46	34¼	11¾	2	73⅞	78⅜	¾	23¼	40¾

AMERICAN BLOWER VENTURA FANS

Model 5H Aeropel Ventilator

1. An efficient, quiet, built-in wall ventilator for kitchens, recreation rooms, and bath rooms of residences or for industrial or commercial applications such as ventilating private offices, reception rooms, and smaller display rooms.
2. The white plastic grille with its smooth molded lines is beautiful in its simplicity and harmonizes with modern architectural design. If horizontal lines predominate in the decoration scheme, the grille can be attached with bars horizontal or if the general theme covers vertical lines the grille can be placed with the bars vertical. This grille offers a minimum of resistence to air flow.
3. The Tubeaxial Ventura Fan, consists of an efficient 3 bladed aerocurve propeller (1 piece molded bakelite, fabric base) driven by a totally enclosed quiet operating motor which is mounted on a resilient spring mounting to a cylindrical air tunnel extending from a streamlined orifice wall plate.
4. A fabricated steel wall box complete with an insulated weather door with automatic door latching mechanism is furnished with each unit. This assembly includes an operating chain with plastic pendant and an electrical terminal box with plunger type on and off switch. As the weather door is opened the fan starts to operate automatically and stops when the door is closed.



[1]

GENERAL NOTES

Current Characteristics

This unit is available in 60/50 Cycle, 115 Volts. Single phase. 1565 rpm. 0.53 Amps. 60 Watts.

Motor

The motor is a quiet operating, constant speed, totally enclosed, shaded pole type fan motor with wool packed bronze bearings suitable for either horizontal or vertical operation. Each motor is furnished with rubber covered underwriters approved connector cord with plug which plugs into outlet in terminal box furnished with each fan.

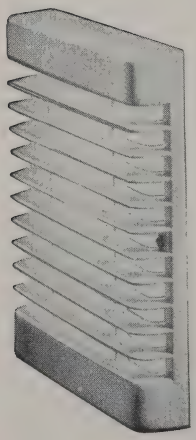
Finish

Grille is molded plastic, white finish. Propeller Fan is molded bakelite fabric base. Wall Box — protected by bonderite for rust resistance. Painted satin black.

Air Capacity

Capacity 400 cubic feet of air per minute at free delivery with wall box and grille in place. Certified rating in accordance with standard test for propeller fans adopted jointly by the National Association of Fan Manufacturers and American Society of Heating and Ventilating Engineers.

[2]



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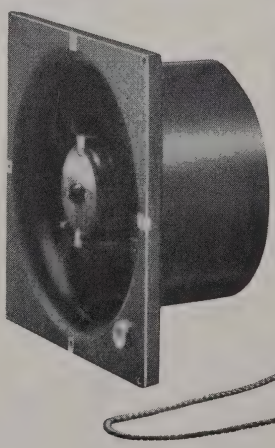

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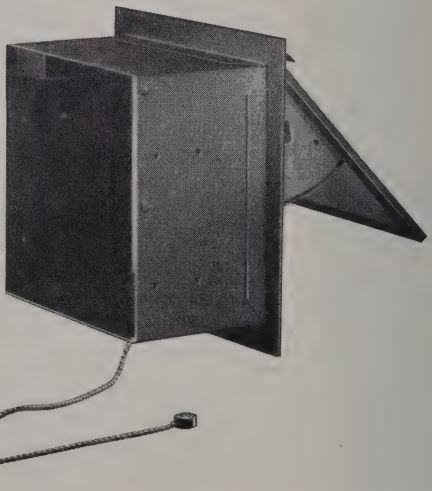
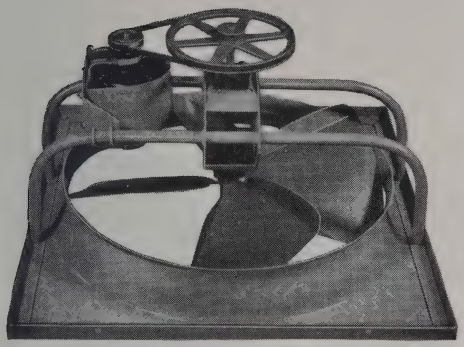


AMERICAN BLOWER

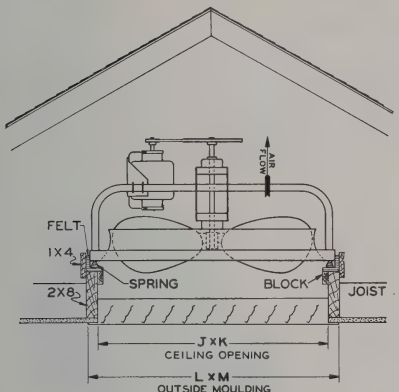
VENTURA PACKAGED ATTIC FAN

115 Volt — 60 Cycle — 1 Phase

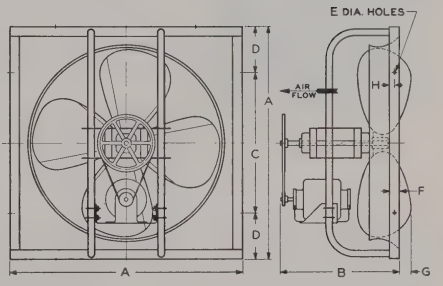


VENTURA PACKAGED ATTIC FAN

- Streamlined inlet
- Quiet operating . . . Unit furnished with felt padding, and 3-point spring mounting
- V-Belt drive . . . Low fan speed
- Ball bearings rubber-mounted
- Designed especially for vertical operation in low bridge attics
- Totally-enclosed, resilient-mounted motor
- Attractive, polished-aluminum louver opens and closes automatically.
- Certified Rating . . . Standard Test Code



TYPICAL INSTALLATION



Dimensions

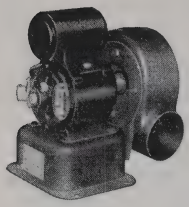
Cat. No.	A	B	C	D	E	F	G	H	Ceiling Opening J	Ceiling Opening K	Outside Moulding L	Outside Moulding M
43 CP	31	18 1/16	19	6	9/16	1 1/2	1 1/16	5/8	31	28 1/2	34	31
70 CP	36	18 1/4	21 5/8	7 3/16	9/16	1 9/16	1 3/4	5/8	34 1/2	34 1/2	37 3/8	37 3/8
100 CP	46	21 3/16	21 1/2	12 1/4	3/4	1 11/16	1 11/16	5/8	43 1/2	37 1/2	46	40

Capacity

Cat. No.	Free Delivery CFM	.1" Static Pressure CFM	Fan RPM	Motor HP	Wheel Dia.	Shipping Weight* Approx. Lbs.
43 CP	4,300	3400	530	1/6	24"	138
70 CP	7,000	5500	448	1/4	30"	198
100 CP	10,000	7500	338	1/4	36"	273

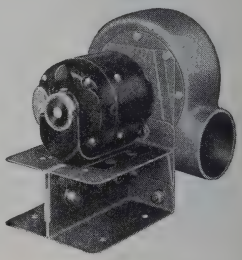
(*)—With accessories

AMERICAN BLOWER UTILITY SETS



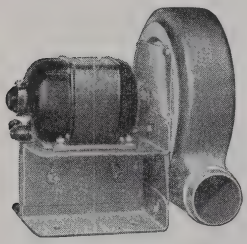
Sizes 30 to 45

A compact utility set with pressed steel housing, multiblade wheel and direct drive motor, built in two sizes used for supplying or exhausting air in small driers, recording wet and dry bulb thermometers and similar laboratory equipment, air cooling electronic tubes, ventilating telephone booths and similar applications. Capacities range from 83 cfm to 171 cfm at free delivery to 46 cfm at ⅜ inch SP.



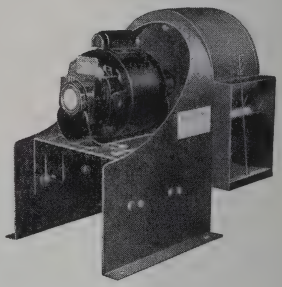
Sizes 0 to 1¾

A utility set with cast iron housing, multiblade wheel and direct drive motor, built in 5 sizes used for laboratory hood exhaust, bilge exhaust, or similar applications where moisture or corrosive gases are present. These units can be supplied on special order with corrosion resisting paint, lead coated wheels or other special features as required for any specific application. Capacities range from 114 cfm to 2085 cfm at ¼ inch SP to 1470 cfm at 1 inch SP.



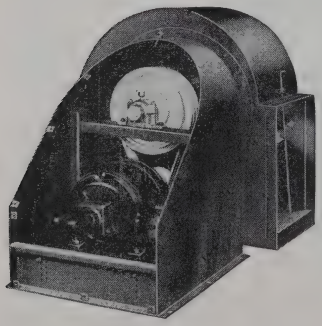
Sizes A to D

A utility pressure blower with cast iron housing, aluminum alloy heat treated wheel with backwardly inclined blades, and direct drive motor, built in 4 sizes used extensively in industrial process work to supply or exhaust air against pressures up to 7 inch SP such as forges, oil burners, exhaust systems for small grinding and buffing wheels, and similar applications. Capacities 174 cfm to 984 cfm against 1 inch SP to 536 cfm at 7 inch S.P.



Sizes 60 to 122

A utility set with fabricated steel housing, multiblade wheel and direct drive motor, built in 5 sizes. Used extensively as a ventilating set for industrial use, air cooling processes, projection room exhaust, and similar applications. Aileron control furnished on Size 90 and larger. Capacities range from 305 cfm to 2300 cfm at free delivery to 2271 cfm at 1½ inch SP.



Sizes 90 to 300

A complete line of self-contained V-belt driven utility sets in 12 sizes available with or without weatherproof hood. These units are equipped with multiblade wheels and various motor combinations. They are universally used as supply or exhaust fans in public buildings, stores, schools, hospitals, hotels, apartment buildings and industrial plants. Capacity range 517 to 17925 cfm at ¼ inch SP to 14420 cfm at 1½ inch SP.

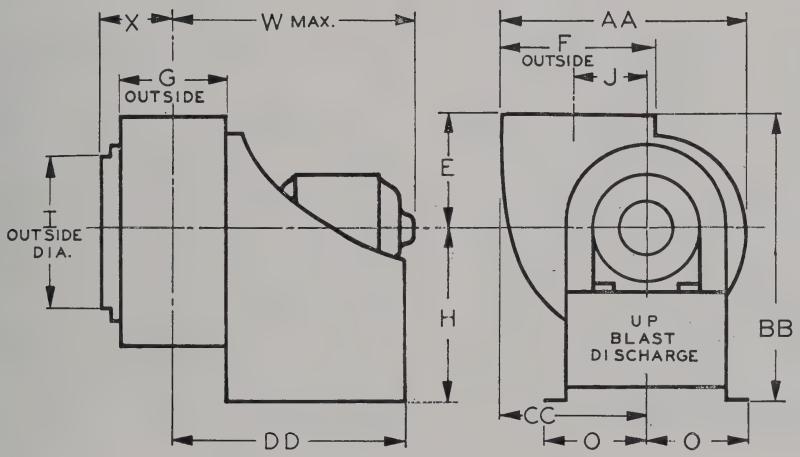
Air Deliveries are in accordance with Standard Test Code for Centrifugal and Propeller Fans adopted jointly by the National Association of Fan Manufacturers and American Society of Heating and Ventilating Engineers.

For Complete Engineering Data on American Blower Utility Sets write for Bulletin 2814

AMERICAN BLOWER UTILITY SETS
Steel Housing—Direct Drive

Capacity Table

Cat. No.	Cycles	Motor H.P.	Fan R.P.M.	Tip Speed	Free Delivery C.F.M.	Free Delivery O.V.	⅛" SP C.F.M.	⅛" SP O.V.	¼" SP C.F.M.	¼" SP O.V.	½" SP C.F.M.	½" SP O.V.	¾" SP C.F.M.	¾" SP O.V.	1" SP C.F.M.	1" SP O.V.	1½" SP C.F.M.	1½" SP O.V.
30H	60 or D.C.	1/75	2850	2235	83	2450	74	2180	59	1800	....	....	....	....	....	....	....	....
45H	60 or D.C.	1/20	1725	2030	171	2220	146	1900	114	1490	....	....	....	....	....	....	....	....
60M	60 or D.C.	1/20	1140	1790	305	1425	268	1250	210	980	....	....	....	....	....	....	....	....
60H	60 or D.C.	⅛	1725	2710	476	2220	457	2140	433	2020	357	1670	257	1200	....	....	....	....
75M	60 or D.C.	⅛	1140	2235	609	1820	573	1715	518	1550	335	1000	....	....	....	....	....	....
75H	60 or D.C.	⅛	1725	3380	....	....	897	2670	874	2600	805	2400	704	2100	589	1760	423	1265
90L	60 or D.C.	¼	860	2030	1090	2320	1015	2160	905	1925	609	1295	....	....	....	....	....	....
90M	60 or D.C.	½	1140	2690	1430	3050	1380	2940	1315	2800	1145	2440	941	2010	....	....	....	....
90H	60 or D.C.	1½	1725	4070	....	....	2130	4540	2095	4460	2010	4280	1915	4070	1793	3820	1545	3290
105L	60 or D.C.	½	860	2365	1730	2700	1648	2575	1536	2400	1266	1975	....	....	....	....	....	....
105M	60 or D.C.	1	1140	3139	2300	3600	2240	3500	2201	3440	2002	3130	1761	2755	1550	2420	....	....
122L	60 or D.C.	¾	860	2755	....	....	....	....	....	....	2176	2530	1855	2160	1476	1715	....	....
122M	60 or D.C.	2	1140	3660	....	....	....	....	....	....	3182	3700	2948	3430	2737	3180	2271	2460



Dimensions on Sizes 30H and 45H Will Be Sent on Request

Available in Any Rotation and Discharge

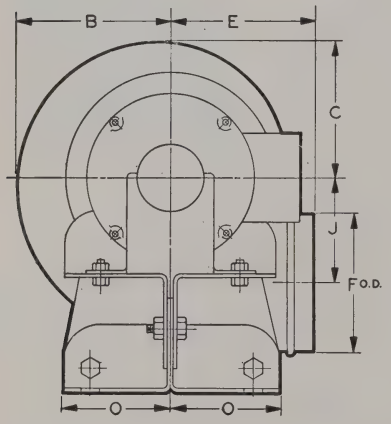
Dimensions in Inches

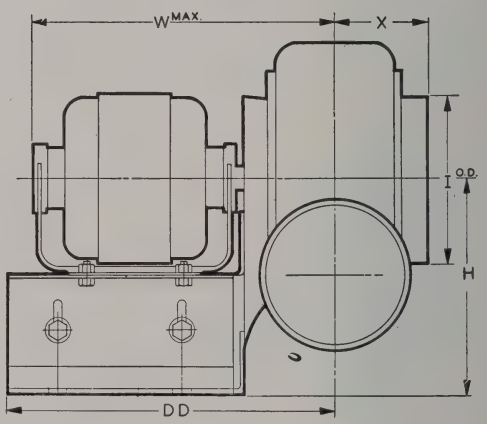
Fan Size	Wheel Dia.	AA UBD	BB UBD	CC UBD	DD	E	F	G	H	I	J	O	W	X
60	6	11	12⅜	6⅜	11 7/16	5⅜	6 9/16	4 13/16	7	6	3 1/16	5¼	15¾	3¼
75	7½	13¾	15½	7 15/16	15	6½	8 3/16	6	9	7½	3 27/32	6	16½	3 15/16
90	9	15⅝	21¾	8 15/16	17⅝	7¾	9 9/16	7 3/16	14	8 15/16	4 3/32	7⅛	20	4 3/16
105	10½	18 3/16	23	10⅜	20 3/16	9	11 3/16	8⅜	14	10½	4 25/32	8	21	5⅜
122	12¼	23⅝	27	13⅝	22 13/16	11	13 1/16	9¾	16	13	6 7/16	9	23¼	7 7/16

AMERICAN BLOWER UTILITY SETS
Cast Iron Housing—Direct Drive

Capacity Table

Catalog Number	Cycles	Motor H.P.	Fan R.P.M.	Tip Speed	0" SP		⅛" SP		¼" SP		½" SP		¾" SP		1" SP	
					C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.
0	60 or D.C.	1/20	1725	2030	171	2220	146	1900	114	1490	....	....	....	....	....	....
1-M	60 or D.C.	1/20	1140	1790	309	1575	274	1400	212	1080	....	....	....	....	....	....
1-H	60 or D.C.	⅛	1725	2710	468	2385	447	2280	422	2155	346	1765	249	1270	....	....
1¼-M	60 or D.C.	⅛	1140	2235	596	1940	558	1820	500	1630	325	1060	....	....	....	....
1¼-H	60 or D.C.	⅛	1725	3380	902	2940	882	2880	855	2780	782	2545	678	2210	571	1855
1½-L	60 or D.C.	¼	860	2030	1060	2400	977	2210	870	1970	600	1360	....	....	....	....
1½-M	60 or D.C.	½	1140	2690	1400	3160	1345	3040	1275	2880	1120	2540	925	2090	....	....
1½-H	60 or D.C.	½	1725	4070	2120	4800	2080	4700	2040	4610	1960	4440	1855	4200	1750	3960
1¾-L	60 or D.C.	½	860	2365	1675	2795	1580	2630	1470	2450	1190	1985	....	....	....	....
1¾-M	60 or D.C.	1	1140	3135	2220	3700	2160	3600	2085	3480	1910	3180	1700	2830	1470	2450





Available in Any Rotation and Discharge

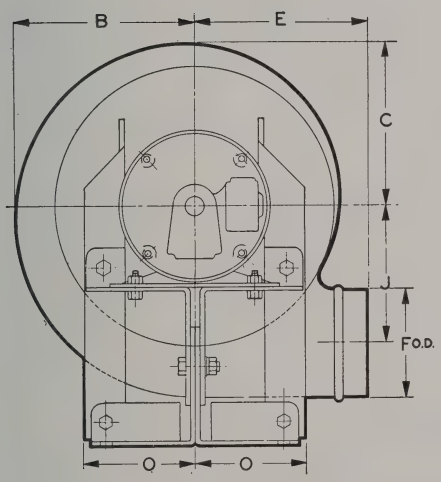
Dimensions in Inches

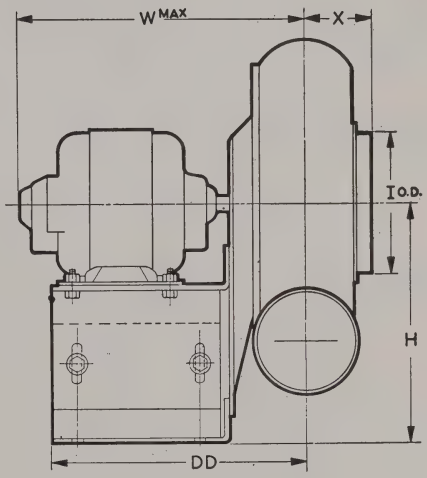
Fan Size	B	C	DD	E	F	H	I	J	O	W Max.	X
0	4 13/32	3 25/32	9	3 15/16	3 11/16	5 7/8	4 1/2	2 13/16	3	11 15/32	2 19/32
1	5 1/2	4 3/4	11 5/8	5 1/4	6	7 1/2	6	3 15/32	3 1/4	12 5/8	3 9/16
1¼	6 13/16	5 27/32	13 1/4	6 1/4	7 1/2	9 1/4	7 1/2	4 5/16	4 1/16	14 1/4	4 1/8
1½	8 3/32	6 15/16	15 3/4	7 3/8	9	11	9	5 1/8	5	21 1/2	4 15/16
1¾	9 11/32	8 1/32	17 5/8	8 1/2	10 1/2	12 1/2	10 1/2	5 25/32	5 3/8	22 15/16	5 11/16

AMERICAN BLOWER UTILITY PRESSURE BLOWERS
Cast Iron Housing—Direct Drive

Capacity Table

Cat. No.	Cycles	Mtr. H.P.	Fan R.P.M.	Tip Speed	1″ SP		2″ SP		3″ SP		4″ SP		5″ SP		6″ SP		7″ SP	
					C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.	C.F.M.	O.V.
A	60 Cy. or D.C.	1/12	3450	6774	174	3544	136	2770	86	1752	....	....	....	....	....	....	....	....
B	60 Cy. or D.C.	1/3	3450	8129	326	4880	290	4341	243	3638	182	2725	....	....	....	....	....	....
C	60 Cy. or D.C.	1/2	3450	9371	546	6254	507	5808	457	5235	395	4525	320	3666	226	2589	....	....
D	60 Cy. or D.C.	1	3450	10839	984	7235	936	6882	879	6463	807	5934	730	5368	644	4735	536	3941





Available in Counter Clockwise Rotation Only

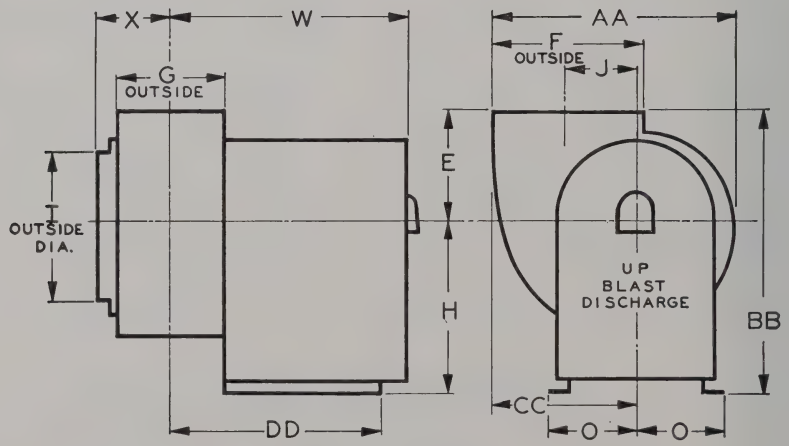
Dimensions in Inches

Fan Size	B	C	DD	E	F	H	I	J	O	W Max.	X
A	5 27/32	5 3/8	10 7/16	5 7/8	3	7 1/2	4	4 27/32	3 1/4	11 1/8	2 1/16
B	6 7/8	6 5/16	11 13/16	6 3/4	3 1/2	9 1/4	5	5 11/16	4 5/16	11 5/8	2 1/16
C	7 15/16	7 1/4	12	7 7/8	4	10	6	6 5/8	4 5/16	14 13/16	2 5/16
D	9 1/32	8 1/32	13 1/8	8 3/4	5	11 1/2	7	7 1/16	4 7/8	15 1/4	3 1/4

AMERICAN BLOWER UTILITY SETS
Steel Housing—V-Belt Drive

Capacity Table

Catalog Number	Motor H.P.	Fan R.P.M. Range Min.	Fan R.P.M. Range Max.	Fan R.P.M.	¼" SP C.F.M.	¼" SP O.V.	½" SP C.F.M.	½" SP O.V.	¾" SP C.F.M.	¾" SP O.V.	1" SP C.F.M.	1" SP O.V.	1½" SP C.F.M.	1½" SP O.V.
				1220	1449	3083	1289	2743	1115	2372	893	1900	....	....
				1231	1462	3111	1308	2783	1137	2419	919	1955	....	....
				1280	1537	3270	1383	2943	1218	2591	1034	2200	....	....
90EQ	¾	1220	1427	1308	1578	3357	1427	3036	1258	2677	1100	2340	....	....
				1347	1630	3468	1491	3172	1316	2800	1172	2494	....	....
				1375	....	....	1525	3245	1360	2894	1222	2600	....	....
				1427	....	....	1597	3398	1452	3089	1311	2789	846	1800
				1128	2169	3384	1974	3080	1731	2700	1515	2363	....	....
				1154	2229	3477	2032	3170	1795	2800	1593	2485	....	....
				1200	....	....	2128	3320	1917	2991	1731	2700	....	....
				1244	....	....	....	....	2042	3186	1841	2872	1282	2000
105FQ	1	1128	1407	1265	....	....	....	....	2108	3289	1900	2964	1410	2200
				1312	....	....	....	....	....	....	2042	3191	1603	2500
				1341	....	....	....	....	....	....	....	....	1719	2682
				1375	....	....	....	....	....	....	....	....	1825	2847
				1407	....	....	....	....	....	....	....	....	1923	3000
				980	2882	3351	2610	3035	2340	2721	2082	2421	....	....
				1000	2950	3430	2680	3116	2415	2808	2170	2523	....	....
				1025	....	....	2762	3212	2512	2921	2270	2640	1573	1829
				1050	....	....	2845	3308	2625	3052	2372	2758	1775	2064
122GO	1½	980	1187	1075	....	....	2930	3407	2703	3143	2475	2878	1928	2242
				1100	....	....	....	....	2795	3250	2580	3000	2064	2400
				1133	....	....	....	....	....	....	2704	3144	2236	2600
				1150	....	....	....	....	....	....	2770	3221	2322	2700
				1187	....	....	....	....	....	....	.....	....	2494	2900



Available in Any Rotation and Discharge

Dimensions in Inches

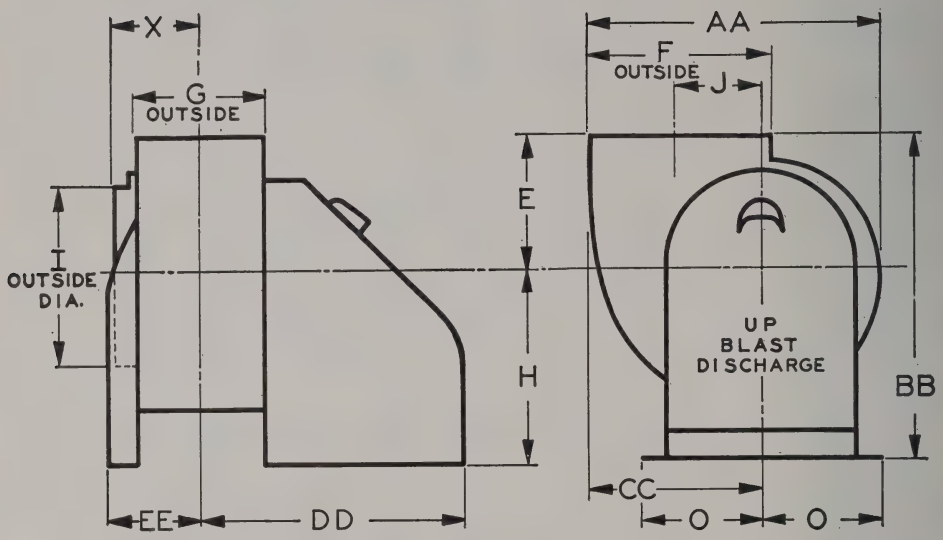
Fan Size	Wheel Dia.	AA UBD	BB UBD	CC UBD	DD	E	F	G	H	I	J	O	W Std.	W Spec.	X
90	9	15⅝	21¾	8¹⁵⁄₁₆	17⅝	7¾	9⅜	7⅜	14	8¹⁵⁄₁₆	4³⁄₃₂	7⅛	21⅜	—	4⅜
105	10½	18³⁄₁₆	23	10⅜	20¼	9	11⅜	8⅜	14	10½	4²⁵⁄₃₂	8	21¹⁵⁄₁₆	24³⁄₁₆	5⅜
122	12¼	23⅝	27	13⅝	22⅞	11	13¹⁄₁₆	9⅝	16	13	6¹³⁄₃₂	9	23¹³⁄₁₆	25¹³⁄₁₆	7¼

AMERICAN BLOWER UTILITY SETS
Steel Housing—V-Belt Drive

Capacity Table

Catalog Number	Motor H.P.	Fan R.P.M. Range Min.	Max.	Fan R.P.M.	¼" SP C.F.M.	¼" SP O.V.	½" SP C.F.M.	½" SP O.V.	¾" SP C.F.M.	¾" SP O.V.	1" SP C.F.M.	1" SP O.V.	1½" SP C.F.M.	1½" SP O.V.
				789	3008	2881	2682	2569	2302	2205	1879	1800	....	....
				837	3235	3099	2923	2800	2560	2452	2218	2125	....	....
135GQ	1½	789	947	855	3340	3200	3004	2877	2651	2539	2330	2232	....	....
				884	....	....	3141	3009	2818	2700	2500	2395	....	....
				923	....	....	3330	3190	3028	2900	2722	2607	1775	1700
				947	....	....	....	....	....	....	2858	2738	2112	2023
				766	4062	3173	3670	2867	3231	2524	2805	2191	....	....
				796	4262	3330	3852	3009	3455	2700	3065	2395	....	....
				831	....	....	4083	3190	3711	2900	3342	2611	2176	1700
150HN	2	766	925	841	....	....	....	....	3787	2959	3422	2673	2432	1900
				873	....	....	....	....	....	....	3655	2855	2816	2200
				898	....	....	....	....	....	....	3839	3000	3072	2400
				911	....	....	....	....	....	....	....	....	3200	2500
				925	....	....	....	....	....	....	....	....	3327	2600
				703	5009	3211	4524	2900	4000	2564	3514	2253	....	....
				724	5197	3331	4705	3016	4211	2700	3744	2400	....	....
				753	5456	3497	4960	3179	4498	2883	4045	2593	2496	1600
165JO	3	703	854	772	5616	3600	5119	3281	4692	3008	4258	2729	3103	1989
				794	....	....	5295	3394	4902	3142	4470	2865	3431	2200
				828	....	....	....	....	5175	3317	4788	3069	3900	2500
				854	....	....	....	....	....	....	5048	3236	4211	2700
				597	5970	3142	5650	2974	5250	2763	4370	2300	....	....
				617	6230	3279	5900	3105	5530	2911	4733	2491	....	....
				658	....	....	....	....	6000	3158	5490	2889	3610	1900
182JO	3	597	730	664	....	....	....	....	6080	3200	5570	2932	3800	2000
				678	....	....	....	....	....	....	5790	3047	4180	2200
				685	....	....	....	....	....	....	5890	3100	4370	2300
				730	....	....	....	....	....	....	....	....	5320	2800
				531	7060	3074	6612	2879	6075	2645	4900	2133	....	....
				552	7340	3195	6980	3039	6535	2845	5495	2392	....	....
				563	....	....	7142	3109	6727	2929	5710	2486	....	....
200JO	3	531	651	575	....	....	....	....	....	....	6025	2710	....	....
				606	....	....	....	....	....	....	....	....	4594	2000
				619	....	....	....	....	....	....	....	....	5053	2200
				651	....	....	....	....	....	....	....	....	5972	2600
				435	7800	2756	7180	2537	6022	2128	3962	1400	....	....
				453	8160	2883	7597	2684	6650	2350	5094	1800	....	....
222JR	3	435	532	489	....	....	....	....	7790	2753	6470	2382	....	....
				506	....	....	....	....	....	....	7040	2487	....	....
				532	....	....	....	....	....	....	....	....	....	....
				331	7770	2252	6309	1829	....	....	....	....	....	....
				345	8180	2371	6940	2012	4485	1300	....	....	....	....
				353	8400	2435	7245	2100	5175	1500	....	....	....	....
				363	8725	2529	7705	2233	5760	1670	....	....	....	....
245JR	3	331	411	371	8892	2577	7935	2300	6110	1771	....	....	....	....
				380	9120	2643	8280	2400	6555	1900	....	....	....	....
				390	9360	2713	8570	2484	7100	2058	....	....	....	....
				402	....	....	8970	2600	7685	2228	5520	1600	....	....
				411	....	....	9250	2681	8080	2342	6210	1800	....	....
				332	10280	2459	8225	1968	4180	1000	....	....	....	....
				341	10670	2553	8680	2077	6270	1500	....	....	....	....
				365	....	....	9850	2356	7942	1900	....	....	....	....
270JO	3	332	411	383	....	....	....	....	8860	2120	5852	1400	....	....
				392	....	....	....	....	9353	2238	7106	1700	....	....
				396	....	....	....	....	9552	2288	7524	1800	....	....
				411	....	....	....	....	....	....	8539	2043	....	....
300KD	5			295	12589	2444	9840	1911	....	....	....	....	....	....
300KC	5			308	13225	2568	10720	2082	7800	1515	....	....	....	....
300KB	5			322	14100	2738	11675	2267	9080	1763	....	....	....	....

AMERICAN BLOWER UTILITY SETS
Steel Housing—V-Belt Drive

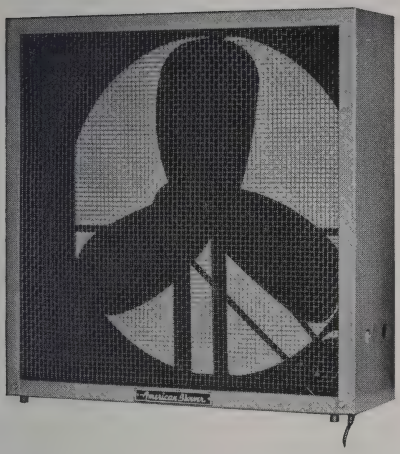


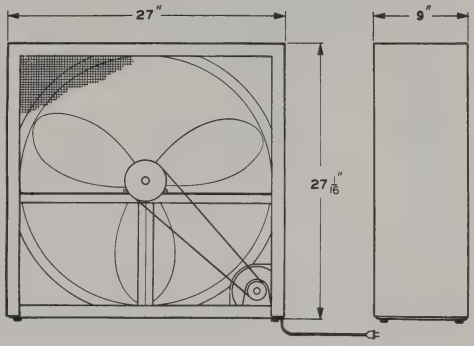
Available in Any Rotation and Discharge

Dimensions in Inches

Fan Size	Wheel Dia.	AA UBD	BB UBD	CC UBD	DD	EE	E	F	G	H	I	J	O	X
135	13½	25⅞	29	15	27⅜	—	12	14⅜	10¾	17	14⅜	7 1/16	10	7 15/16
150	15	28⅝	32	16½	30	—	13	15 13/16	11 15/16	19	15⅞	7 15/16	10¾	8 13/16
165	16½	31¼	34	18⅜	30½	—	14	17 7/16	13 1/16	20	17⅜	8⅝	11½	9⅜
182	18¼	34½	37	20	31¼	—	15	19 5/16	14 7/16	22	19⅜	9 9/16	12½	10 7/16
200	20	37⅝	39½	21¾	32⅞	11⅝	16½	21 5/16	15 13/16	23	21¼	10 7/16	14	11 5/16
222	22¼	41¾	43½	24⅛	36¼	12½	18	23⅝	17 9/16	25½	23⅝	11⅝	15¼	12 1/16
245	24½	45¾	47½	26½	38¾	13¾	19½	26⅛	19⅜	28	26	12¾	13⅜	13⅞
270	27	50¼	51½	29⅛	41¾	15	21	28⅝	21⅜	30½	28⅝	14⅛	15	14⅞
300	30	55⅝	56½	32¼	46⅜	16⅜	23	31⅞	23⅝	33½	31¾	15⅝	16½	16

AMERICAN BLOWER VENTURA WINDOW FAN





Features

- Modern Styling
- Beige Hammer Tone Finish (Exterior)
- Non-Reflecting Satin Black Finish (Interior)
- Safety Grilles, front and rear
- Dual Use—Window Fan or Floor Circulator
- Resilient Mounted Motor
- Resilient Mounted Ball Bearings on Fan
- Rubber Feet under cabinet
- Streamlined Inlet and Aerocurve Propeller
- 8 ft. UL. approved cord and plug
- Certified Ratings
- Sound Rated
- Designed for use as Supply or Exhaust Fan

Performance Data

Model No.	C.F.M. Free Delivery	C.F.M. 1/10" SP	Fan RPM *	Wheel Diameter Inches	Watts Imput *	Amps. Inpur *	Decibel Rating †	Approx. Shipping Weight Lbs.
32W	3200	1980	640	24 5/16	208	3.2	65	60

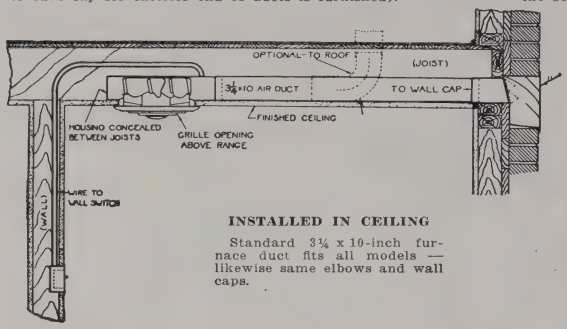
*At 1/10 inch SP, FAN RPM is 601, Amps. 3.37, Watts 226

†Sound ratings are in accordance with the N.A.F.M. Sound Measurement Test Code.

Blo-Fan—Combination Fan and Blower Type—VENTILATOR

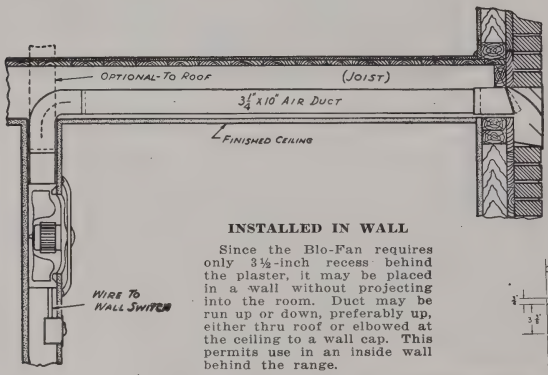
Blo-Fan housing builds into a ceiling between 16-inch centered joists or in a wall between the standard 2x4 studs. It is ducted either through the roof, out the side wall or the eaves (duct and roof jack furnished by others but wall cap or eave cap for exterior end of ducts is furnished).

It cannot be discharged straight through an exterior wall. In case of a soffit, install fan in ceiling in front of soffit. For No. 206 and No. 208 models electrician must furnish a conventional wall switch. For No. 210 model he must provide a 4x4 box with plaster ring for speed control.



INSTALLED IN CEILING

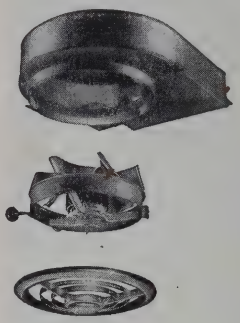
Standard 3¼ x 10-inch furnace duct fits all models — likewise same elbows and wall caps.



INSTALLED IN WALL

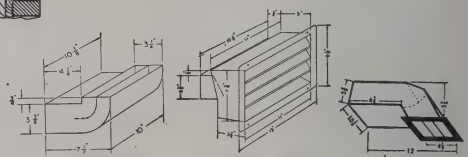
Since the Blo-Fan requires only 3½-inch recess behind the plaster, it may be placed in a wall without projecting into the room. Duct may be run up or down, preferably up, either thru roof or elbowed at the ceiling to a wall cap. This permits use in an inside wall behind the range.

"Exploded" View



Housing builds in during framing; motor and blade merely snap into place at the finish; and grille—which fits flush with ceiling or wall—screws to the motor assembly by the single large hand knob. No tools required, making removal easy for cleaning.

Discharge Fittings



-1A ELBOW -2A WALL CAP -3 EAVE CAP

3 SIZES

No. 206 "JUNIOR"—for kitchenettes, small kitchens, bathrooms, etc. Divide cubic contents of room by 175 for number of minutes required for an air change.

No. 208 "STANDARD"—for average kitchens, laundries, small offices, etc. Divide contents by 300 for air change.

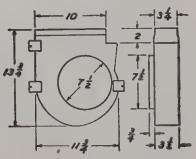
No. 210 "DELUXE"—for large kitchens, game rooms, etc. Equipped with speed control. Divide by 500 for air change.

Extremely popular because it provides a recessed light in conjunction with the ceiling ventilator. 100-watt light gives ample illumination for range below. Units serviced individually.

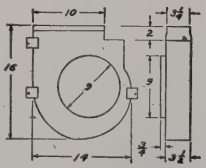
When used with #208 Blo-Fan, add "-408."
When used with #210 Blo-Fan, add "-410."

No. 210—9 Speeds
Wall plate for switch and speed control furnished with No. 210 De-Luxe model.

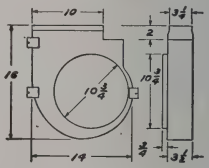
No. 206



No. 208



No. 210



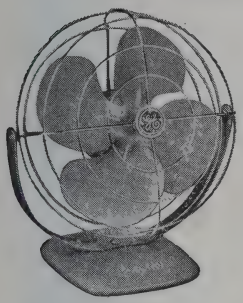
Blo-Fan Specification Data

Model	CFM †	CFM ‡	Size, Inches	Speeds	Watts	With Elbows	With Wall Cap	With Eave Cap	With Light
206 "Junior"	175	350	11½x13¾x4¼	1	38	206-1	206-2	206-3	----------
208 "Standard"	300	600	14 x16 x4¼	1	58	208-1	208-2	208-3	208-408*
210 "De Luxe"	500	1000	14 x16 x4¼	9	136	210-1	210-2	210-3	210-410*

*If elbow or wall cap is desired also, add proper dash number.
†Actual cubic feet per minute discharge thru 10 ft. of duct and a wall cap—NOT "FREE AIR."
‡Comparable in air delivery thru the ventilator to a propeller blade rated at the "Free-Air" figure shown below.

G-E FANS

10-INCH HOME FAN—No. FM10NS2

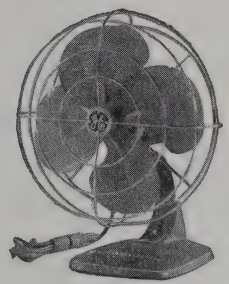


Wide blades attached to motor shaft by rubber hub for quiet, long-lasting performance. Can be set at any angle from horizontal to 90 degrees — circulates air from table or serves as floor fan. No nuts or bolts to loosen when adjusting — swings easily in U-shaped support.

Finished in cool mist-gray. Chromium-plated, welded-steel blade guard. Single-speed, finger-tip switch at rear of motor shell. Sturdy metal base. Quiet-running, induction motor. All moving parts lubricated from single, larger reservoir — no lubricant to add for years.

Cat. No.	Watts	Noise Level DB.	Volume C.F.M.	Velocity F.P.M.	Price Each
FM10NS2	38	44	550	1100	**$13.95**

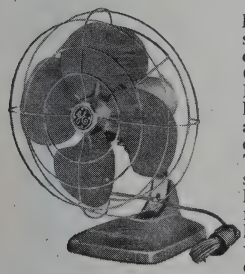
10-INCH HOME FAN—No. FM10S63



Oscillating. Broad, silent blades attached to motor shaft by rubber hub. Sealed-in oscillating mechanism. Mist-gray finish with chromium-plated blade guard. C-shaped motor support with wing-nut tilting adjustment. Fingertip switch at rear of motor shell. One-piece, molded-plastic motor shell. Quiet induction motor. All moving parts lubricated from a single, large reservoir — no lubricant to add for years. Felt-protected, molded-plastic base can be placed on highly finished surfaces or hung on the wall.

Cat. No.	Watts	Noise Level DB.	Volume C.F.M.	Velocity F.P.M.	Price Each
FM10S63	38	44	550	1100	**$16.95**

12-INCH HOME-FAN—No. FM12S42

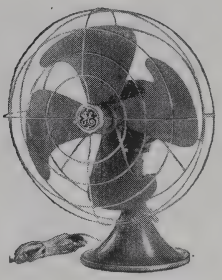


Oscillating. Wide blades attached to motor shaft by rubber hub for quiet, efficient operation. Oscillating or non-oscillating at the twist of a knob. Oscillating mechanism completely encased in motor shell. Two-speed, fingertip switch at rear of motor housing. Quiet induction motor. Broad plastic base, cushioned to prevent marring high finishes. Porous-metal bearings. All moving parts lubricated from single, larger reservoir — no lubricant to add for years. C-slot motor support with wing-nut tilting adjustment. Finished in mist-gray. Chromium-plated blade guard.

Cat. No.	Watts	Noise Level DB.	Volume C.F.M.	Velocity F.P.M.	Price Each
FM12S42	60	47	975	1375	**$34.95**

G-E FANS

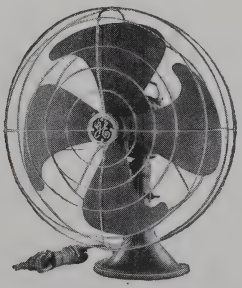
12-INCH LARGE SUPERQUIET FAN
No. FM12V43



Oscillating Vortalex blades designed for large air delivery at low noise levels. Three-speed rotor switch in base. Mist-gray finish with chromium-plated, welded-steel guard. Self-aligning, ball seat, porous-metal bearings sealed against oil leakage. Sturdy metal base, cushioned to prevent scratching. Wing-nut tilting adjustment.

Cat. No.	Watts	Noise Level DB.	Volume C.F.M.	Velocity F.P.M.	Price Each
FM12V43	85	50	1200	1700	**$44.95**

16-INCH MASTER SUPERQUIET FAN
No. FM16V23

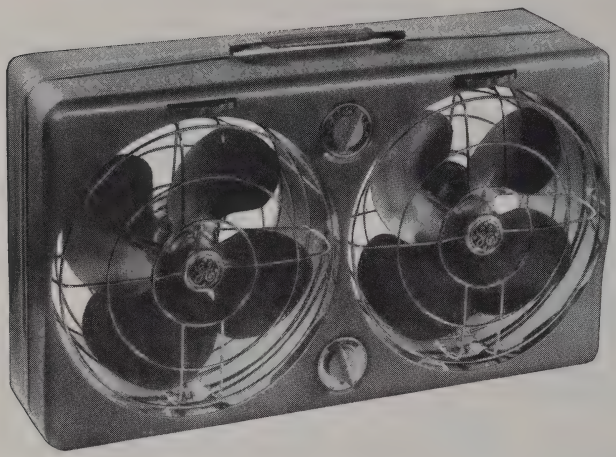


Oscillating General Electric's most powerful desk fan. Famous G-E Vortalex blades. Mist-gray finish. Sturdy, new blade guard, plated with chromium. Clutch knob instantly changes fan from oscillating to non-oscillating. Self-aligning, ball-seat, porous-metal bearings for life-time wear. Thumb-nut tilting adjustment. Convenient carrying handle on motor housing. Metal base has felt cushioning. Three-speed switch in base.

Cat. No.	Watts	Noise Level DB.	Volume C.F.M.	Velocity F.P.M.	Price Each
FM16V23	100	50	1700	1400	**$49.95**

GENERAL ELECTRIC FANS

No. FM12T1 TWIN-FAN VENTILATOR



The new General Electric Twin-fan Ventilator is portable and fully automatic. Carry it by its convenient handle from room to room; place it on desks or on the floor. Rubber feet protect surfaces from scratches. Easily mounted in casement or sash-type windows. Thumb-wheel dials give separate air-direction control for each fan — pivot fans 180 degrees to draw in cool outside air, or exhaust hot, stuffy air. Fantrol dial gives you thermostatic control of fans — turns them on **automatically** when room temperature rises, off when it drops.

Three-speed switch provides gentle, moderate or high velocity air flow to keep you cool and comfortable. No oiling needed for years. Mist-gray finish with chrome trim.

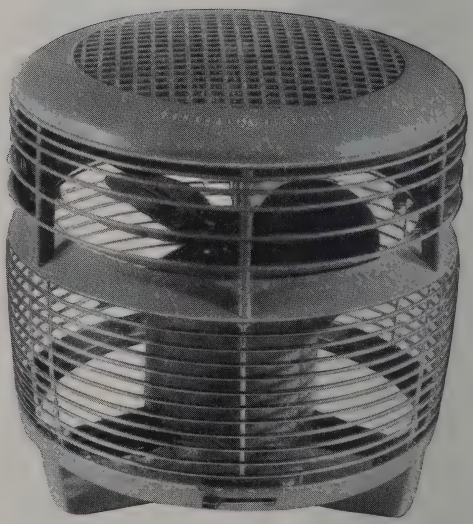
Cat. No.	Watts	Noise Level db.	Velocity F.P.M.	Std. Ship. Quantity	Unit Ship. Wt. Lbs.	Price Each
FM12T1	115	60	1150	1	38	**$69.95**

Price includes Federal Excise Tax.

No. FM12F1 12-INCH FLOOR CIRCULATOR

The G-E Floor Circulator introduces a new twin-blade design which gives **whole-room** circulation. This streamlined fan is attractively styled — circulates room air completely — does the work of several ordinary fans without creating annoying blasts and drafts of air. Bottom blade circulates cool air currents that hug floor areas; top blade moves warm ceiling currents.

Three-speed switch is conveniently located at the base. Cool-looking gray and chrome finish is easy to keep clean. Unique plastic-top grill and side louvers give maximum circulation — sturdy enough to be used as a chair or foot-stool. Efficiently spaced chrome-plated guard rings protect inquisitive fingers from danger. Motor lubricated for years of dependable service.



Cat. No.	Watts	Noise Level db.	Velocity F.P.M.	Std. Ship. Quantity	Unit Ship. Wt. Lbs.	Price Each
FM12F1	190	57	915	1	31½	**$59.95**

Price includes Federal Excise Tax.

signalling and
communication
equipment

FARADAY INDUSTRIAL HORNS
WEATHERPROOF HORNS—OUTDOOR USE

Heavy duty, vibrating type with cast base tapped for direct entrance of ½-inch surface conduit. Also for mounting over outlet box in wall with hanger plate. Hanger plate furnished without charge, but only when specified on order for horn. Signal is sharp, clean cut, horn-tone of maximum strength.

Standard finish, black wrinkle enamel. Red enamel, if specified on order, without extra charge. All coils impregnated to make moisture-proof. Loudness rating at source: Megaphone 3500M; Two-way 3000M units.

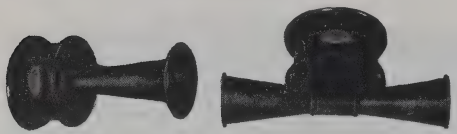
For A.C. Operation—Underwriters Listed

Cat. No.	Projector Style	Std. Pkg.	Shpg. Wt. Lbs.	24 V. 115 V.	Other Voltages to 250 V.	‡Series Operation
122	Megaphone	1	7	**$25.00**	**$29.00**	**$25.00**
124	Two-Way	1	11	**33.50**	**37.00**	**33.50**
Discount Schedule:				S	S	C

For D.C. Operation—Underwriters Listed

Cat. No.	Projector Style	Std. Pkg.	Shpg. Wt. Lbs.	9 V., 24 V. 115 & 250 V.
147	Megaphone	1	7	**$29.00**
149	Two-Way	1	11	**37.00**
Discount Schedule:				S

UNIPACT AND STANDARD HORNS
INSIDE USE



Faraday Unipact horns are furnished with the Unipact dead front adapter plate which not only provides for interchangeability of horn with other Unipact signals but enables quick, safe installation over 4-inch square, or octagon, wall box, Condulet or Wiremold fitting.

Faraday Standard horns are designed for direct connection to ½-inch surface conduit, or for mounting over 4-inch square wall box with hanger plate. Hanger plate furnished without charge if ordered with horn. Standard finish is black wrinkle enamel. Red enamel, if specified on order, no extra charge. All coils specially impregnated to insure moistureproof qualities. Loudness rating at source: Megaphone 3500M; other styles 3000M units.

For A.C. Operation—Underwriters Listed

Cat. No. Unipact	Cat. No. Stand.	Projector Style	Shpg. Wt. Lbs.	24 V. 115 V.	Other Voltages to 250 V.	‡Series Operation
121-U	**121-S**	Mega.	5½	**$21.00**	**$25.00**	**$21.00**
123-U	**123-S**	2-Way	9½	**29.50**	**33.50**	**29.50**
.....	**126-S**	Flush	5	**30.00***	**34.00***	**30.00**
127-U	**127-S**	Drum	4½	**18.50**	**23.00**	**18.50**
128-U	**128-S**	Short	5½	**21.00**	**25.00**	**21.00**
Discount Schedule:				S *C	S *C	C

Standard package—1.

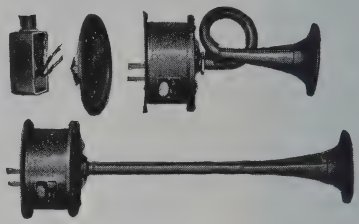
For D.C. Operation—Underwriters Listed

Cat. No. Unipact	Cat. No. Standard	Projector Style	Std. Pkg.	Shpg. Wt. Lbs.	9 V., 24 V. 115 V.
146-U	**146-S**	Megaphone	1	5½	**$25.00**
148-U	**148-S**	Two-Way	1	9½	**33.50**
.....	**137-S**	Flush	1	5	**34.00***
144-U	**144-S**	Drum	1	4½	**23.00**
145-U	**145-S**	Short	1	5½	**25.00**
Discount Schedule:					S *C

Specify exact voltage.

‡Wound for Series Operation on Fire Alarm System

FARADAY INDUSTRIAL HORNS
UNIPACT KODAIRE — INSIDE USE



A compact model of the famous Kodaire. Made in both loop and straight projector styles — its powerful, air blast type trumpet tone masters most severe noise conditions. Standard finish black wrinkle enamel. Red enamel, without extra charge, when specified. Interchangeable with other Unipact signals of same voltage without change of electrical connections. Ideal for code signaling work. Unipact dead front adapter plate provides for a safe, easy mounting over 4-inch square or octagon wall box, Condulet or Wiremold fitting. Standard package, 1. Shipping weight, 6 lbs.

For A.C. Operation—Underwriters Listed

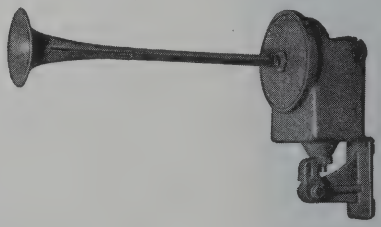
Cat. No.	Style Projector	Loudness Rating at Source	List Each 115 Volts	List Each 250 Volts
133-L	Loop	10,000 M	**$50.00**	**$50.00**
133-S	Straight	10,000 M	**50.00**	**50.00**

For D.C. Operation—Underwriters Listed

Cat. No.	Style Projector	Loudness Rating at Source	List Each 115 Volts	List Each 250 Volts
132-L	Loop	10,000 M	**$50.00**	**$50.00**
132-S	Straight	10,000 M	**50.00**	**50.00**

Schedule "S" Discounts

WEATHERPROOF KODAIRE—OUTDOOR USE
For High Power Signaling



Has the same heavy duty, laminated type, air electric horn mechanism that powers the Unipact Kodaire but has heavy cast housing with swivel type mounting bracket to permit focusing sound in any desired direction. Fully weatherproof case has three tapped holes for ½-inch conduit entrance. A positive, clear cut, dependable signal for outdoor use where difficult noise level conditions prevail. Standard finish, black wrinkle enamel. Red enamel, without extra charge, when specified on order. Suitable for code signal, or general alarm work. Standard package, 1. Shipping weight, 30 lbs.

For A.C. Operation—Underwriters Listed

Cat. No.	Style Projector	Loudness Rating at Source	List Each 115 Volts	List Each 250 Volts
136	Straight	10,000 M	**$60.00**	**$60.00**

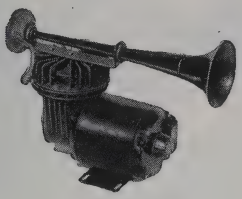
For D.C. Operation—Underwriters Listed

Cat. No.	Style Projector	Loudness Rating at Source	List Each 115 Volts	List Each 250 Volts
134	Straight	10,000 M	**$60.00**	**$60.00**

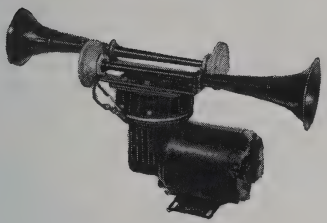
Schedule "S" Discounts

FARADAY AIR TRUMPETS

TO OVERCOME DISTANCE AND HIGH NOISE LEVELS



Single Projector Type



Two-Way Projector Type

These Trumpets have a high power, piercing blast of tremendous signal strength. Pitched at the correct frequency (325 cycles) for greatest signal effectiveness, the high intensity note cuts through the high and varying noise levels of industrial areas to sound a distinctive signal that commands attention. Louder than any all-electric signal of similar size. Used widely for General Alarm work. Not suitable for coding.

The Faraday Air Trumpet gives an extremely loud alarm signal to overcome very high noise levels or wide areas. Plan an air trumpet signal system on the basis that its signal can be heard about one mile under favorable conditions, but for conservative signaling, figure about one-half mile.

The Air Trumpet is an air-pressure horn ready for connection to existing electric power circuits—no auxiliary equipment, tanks, nor air lines are required. The standard speed—¼ H.P. ball bearing long life electric motor is an integral part of the advanced design compressor. The air trumpet is connected directly to the compressor dome.

Mounting facilities are for vertical wall, or horizontal surface installation. Wiring connections are made in terminal box with ½-inch conduit entrance.

Heavy black enamel finish is standard. Red, at no extra cost, when specified. Loudness Rating—17,000 M at source. Watts required, 300.

Single Projector Type

Cat. No.	Current Voltage	Overall Dimens., In. Lgth.	Hght.	Wdth.	List Each
110	AC 115, 230	20	13⅝	8½	**$168.55**
109	DC 24, 115, 230	20	13⅝	8½	**193.15**

Two-Way Projector Type

111	AC 115, 230	26½	13⅞	9	**215.90**
112	DC 24, 115, 230	26½	13⅞	9	**240.50**

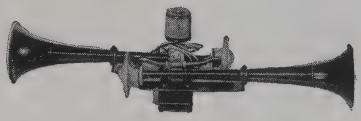
Be Sure to Specify Voltage.

Schedule "C" Discounts

FARADAY AIR TRUMPETS

AIR TRUMPETS TO OPERATE ON AIR LINES

Single Projector Type



Two Way Projector Type

Ideal for both General Alarm and Coding work. Faraday Trumpets may be had to operate on compressed air lines carrying from 20 to 100 pounds pressure. An electrically controlled solenoid valve admits the air. The valve is instant operating and may be had to operate on 60 cycles AC or DC 24, 115 and 230 volts. Comes complete with mounting bracket.

Loudness rating—17,000 M at source.

Single Projector with Valve

Cat. No.	Overall, Inches Length	Height	Width	Shpg. Wt. Lbs.	List Each
183 AC	20	9	6½	10	**$56.25**
184 DC	20	9	6½	10	**56.25**
	Double Projector with Valve				
185 AC	28¾	8½	7¾	15	**81.25**
186 DC	28¾	8½	7¾	15	**81.25**
	Single Horn Only—No Valve				
189	20	7½	5½	9	**28.15**
	Double Horn Only—No Valve				
190	28¾	4¾	7¾	14	**53.15**

Schedule "S" Discounts

FARADAY MOTOR DRIVEN SIREN

A penetrating, powerful siren note, rising to a high-pitched, piercing scream in approximately 2 seconds. Loudness rating is 4,000 M.

Where a large area is to be covered reliably, or where the noise levels and the character of noises are constantly changing, a multiple installation of sirens should be made, with sirens placed in strategic locations throughout the area.

The motor is a continuously rated, high speed series-universal type. Ball bearing shaft. Wiring is totally enclosed within motor head. Heavy duty brushes are thoroughly insulated.

Grease-sealed ⅛ h.p. motor operates on either AC or DC and on all commercial frequencies. Available in either 24, 115 or 250 volt AC-DC. Requires 300 watts.

Baked-on red enamel, weatherproof. Length, 11 inches; diameter, 10½ inches; height, 12¾ inches. Shipping weight, 15 pounds.

Cat. No.	Description	List Each
150	AC-DC 24, 115-Volt Siren	**$85.00**
151	AC-DC 250-volt Siren	**95.00**

Schedule "S" Discounts

FEDERAL ELECTRIC SIRENS

FEDERAL VERTICAL SIRENS

5 H.P. Federal Siren

Vertical general alarm and code sirens provide effective signals for industries and municipalities. The vertical design distributes the sound equally in all directions over a radius of from ¾ to 3 miles. Grease sealed ball bearings and heavy duty construction assure maximum durability and performance. The heavy galvanized sheet metal housing makes the siren completely weatherproof but does not muffle tone.

Large sirens should be operated through a remote control to which any number of push buttons, or pull lever boxes may be connected.

Siren No.	H.P.	Voltage	Motor Current	Cycle	Phase	Shpg. Wt.	Price Each
2	2	110–220	Univ.	Any	1	90	$250.00
3	3	220–440	AC	60	3	385	385.00
3	3	220	AC	60	1	450	475.00
5	5	220–440	AC	60	3	485	450.00
5	5	220	AC	60	1	505	525.00
7	7½	220–440	AC	60	3	515	500.00
7	7½	220	AC	60	1	525	575.00

FIRE ALARM BOXES (Pull Lever Type)

General Fire Alarm Box, Pull Lever Type

The Federal Fire Alarm Box automatically sounds the siren up and down the scale a predetermined number of times and then cuts out at the conclusion of the alarm. Pulling down the lever winds a clockwork mechanism which rotates a cam (or code wheel). This cam opens and closes the circuit a given number of times on each revolution or round. The box is set at the factory, usually to give two or three blasts per round. It may be quickly adjusted in the field to repeat this signal two, three, or four times, as desired. Special signals can be blown by use of the telegraph key in the box.

Where fire alarm boxes are to be mounted outside, exposed to the weather, the weatherproof type is recommended.

Controls

Description	
Remote Control for No. 2 Siren	$30.00
Remote Control for No. 3 Siren	40.00
Remote Control for No. 5 or No. 7 Siren	60.00
Push Button Switches	5.00
Bush Button in break glass weatherproof box	20.00
Fire Alarm Box (as illustrated)	55.00
Fire Alarm Box, weatherproof	80.00
Standard General Alarm Control	45.00
Predetermined (auto. stop) G. A. Control	65.00

Specify voltage and type of current in ordering Controls.

FEDERAL ELECTRIC SIRENS

TYPES "A" AND "L" SIRENS

Type A Standard Siren

An excellent signal wherever electricity is available. High-speed, ⅛-horsepower, grease-sealed, ball-bearing motor produces powerful tone. Entire assembly is protected by weatherproof housing. Equipped with swivel bracket for any mounting. Length overall 17 inches, horn diameter 10 inches. Any specified voltage from 6 to 110 AC. or D.C. Shipping weight 15 pounds.

Price, Standard Type A Siren.....each **$60.00**

The new Model L Siren, similar to the Type A, but more powerful and with deeper tone. Designed for extremely heavy duty services, especially on higher voltages. Length overall 20 inches. Diameter 11½ inches. Available for 110, 220, or 250 volts, AC or DC. Price..... **$75.00**

Type A Weatherproof Code Siren produces short, sharp code blasts. Coding accomplished by closing sound ports, not by braking. Two or more code sirens may be connected for synchronous operation. Mechanical details similar to Standard Type A. 110 volts.

Price, Type A-Code Siren.....each **$90.00**

VEHICLE SIRENS

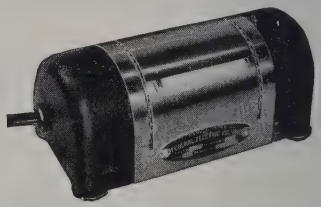
A complete line of powerful sirens, with or without flashing lights for fire apparatus ambulances, police cars, and other emergency vehicles, ranging in price from **$21.00** to **$150.00**. Complete information on request.

COMPRESSED AIR WHISTLES

Fifteen types of whistles and valves for manual or electric operation. See listing of Compressed Air Horns.

FEDERAL SIGNAKALL

Electrically Actuated—Completely Automatic



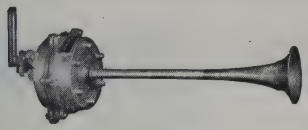
The Federal Signakall will initiate 30 different selected code signals, repeating until shut off. The dial may be quickly set, and tripping a switch starts the coding. Its 110 volt, 60 cycle electric operation is independent of the current of the signal circuit. Requiring a minimum of space, it may be used with existing horn, siren, bell, or chime, system, or may be the nucleus of a complete modern Federal system. Indispensable to busy offices, factories, institutions, schools, mines, camps and stores. Relieves held-up telephone lines, reduces switchboard traffic, and speeds locating the desired party. Shipping weight, 4 pounds.

Where the number of signals in the circuit raises the power load above 500 watts a master relay is necessary. The voltage and type of current upon which the signal system operates should be specified in ordering a relay.

Price, Federal Signakall.....each **$85.00**
Relay for above.....each **20.00**

FEDERAL ELECTRIC HORNS

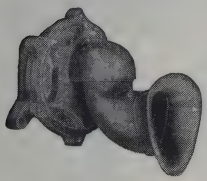
FEDERAL RESONATING HORNS



A new and radically different electric horn. Its powerful, pulsating, trumpet-like tone is pleasant but penetrating. Will overcome unusually high noise levels. Weatherproof, watertight, and non-corrodible. Available for any specified voltage from 6 to 250. Housing tapped for ½-inch conduit. Has adjustable mounting bracket. Length overall, 20½ inches.

Cat. No.	Voltage	Current	Cycle	Shpg. Wt. Lbs.	Price Each
55	24 to 250	AC	25–60	11	$60.00
56	6 to 250	DC	.....	11	60.00

STANDARD VIBRATORY HORNS



Single Projector Type

Federal vibratory horns are weatherproof and watertight. They are constructed of non-corrodible materials and are for use outdoors as well as indoors. Standard horns are sufficiently loud to overcome most noise levels.

Available in any specified voltage from 6 to 250 AC or DC.

Alternating Current Cat. No.	Alternating Current Price Each	Description	Direct Current Cat. No.	Direct Current Price Each
30-A	$17.00	Grille Front	40-A	$20.50
30	22.75	Single Projector	40	26.25
50	30.25	Double Projector	51	33.75

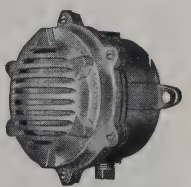
INTERIOR TYPE VIBRATORY HORNS

Similar in appearance and performance to the standard horns listed above, but non-weatherproof for interior use.

Alternating Current Cat. No.	Alternating Current Price Each	Description	Direct Current Cat. No.	Direct Current Price Each
35	$18.75	Single Projector	45	$22.50
36	26.25	Double Projector	46	30.00

HIGH POWER VIBRATORY HORNS

Employ the same high quality materials and design as the standard units. They are excellent for the more noisy locations, having about twice the volume of ordinary horns. Like the standard horns, are available with grille front, single or double projector, and in any specified voltage from 6 to 250 AC or DC.



With Grille Front

Alternating Current Cat. No.	Alternating Current Price Each	Description	Direct Current Cat. No.	Direct Current Price Each
31	$18.50	Grille Front	41	$23.00
32	25.00	Single Projector	42	29.00
33	33.50	Double Projector	43	37.00

FLUSH TYPE HORNS

All grille front Standard and High Power Models are also available for flush mounting at a slightly higher price. Ask for literature.

FEDERAL MOTOR DRIVEN HORNS

Type Nos. 60 or 61

Type Nos. 20 or 21

These horns are clear and vibrant in tone, providing a pitch so distinctly different that they gain instant recognition. They are especially recommended for noisy locations. They are properly gasketed to be waterproof and are extremely rugged. Housing is tapped for ½-inch conduit. Motor driven horns are not recommended where rapid code signals are required.

Rating: A.C. Horns — 110-220-250 volts, 25 to 60 cycles. D.C. Horns — 24-110-220-250 volts.

Type	Projector	Current	Watts	Overall Dimens.	Wt. Lbs. Net	Wt. Lbs. Shpg.	Price Each
20	Single	AC	55	14¼x6¼	11½	13	$60.00
21	Single	DC	55	14¼x6¼	11½	13	65.00
60	Double	AC	55	19¾x6¼	11½	15	65.00
61	Double	DC	55	19¾x6¼	11½	15	70.00

FEDERAL COMPRESSED AIR HORNS

Model No. 6-H

For industries and municipalities, wherever a loud distinctive general alarm or code signal is desirable.

For short codes or prolonged alarms, Federal air horns are ideal. Each successively larger whistle has a deeper and more powerful tone. Projectors are specially machined cast bell bronze. Horns are available for specific pressures ranging from 15 pounds upward.

Diaphragms of special metal will last almost indefinitely at proper working pressure. Hand valves or electric valves also are available at prices depending on current and pressure characteristics required.

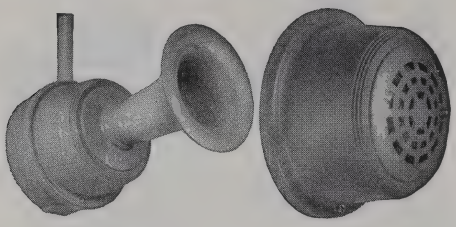
Numerals in Model Nos. indicate diameter of diaphragm. Letters H, M, or L indicate high, medium or low pitch. For example, Model 10-L is a 10-in. diaphgram low pitch horn, etc.

Model No.	Frequency in CPS	Length Overall Ins.	Pipe Size Ins.	Shpg. Wt. Lbs.	Price Each Horn	Price Each Hand Valve	Price Each Elec. Valve
Screw Type Connection							
3-H	725	4¾	⅜	4	$30.00	$7.50	$18.00
3-M	420	6½	⅜	5	37.50	7.50	18.00
3-L	350	12½	⅜	6	45.00	7.50	18.00
4-H	470	7½	½	7	40.00	10.00	25.00
4-M	380	11	½	12	65.00	10.00	25.00
4-L	290	14½	½	14	80.00	10.00	25.00
6-H	310	11½	¾	20	100.00	12.50	45.00
6-M	255	15	¾	22	120.00	12.50	45.00
6-L	190	18½	¾	25	135.00	12.50	45.00
Flange Type Connection							
8-H	240	14½	¾	50	185.00	12.50	45.00
8-L	170	21½	¾	60	275.00	12.50	45.00
10-H	200	16	1	60	225.00	15.00	75.00
10-L	125	32	1	120	300.00	15.00	75.00

Valves are available for any common voltage in D.C. from 6 to 250 volts; for 60-cycle A.C. in 24, 110, 208, 220, and 240 volts; and for 25-cycle A.C. on 110, 220, and 440 volts.

EDWARDS ADAPTAHORN

Listed by Underwriters' Laboratories, Inc.



Projector Type 7" diam. 10⅛" long — **Grille Type 7" diam. 4" deep**

The Adaptahorn is designed to give louder results from less current. Has the same unique sealing of the mechanism and adaptor mounting as the Edwards Adaptabel. Large binding posts for easier front-connection of wires. Standard finish, light grey.

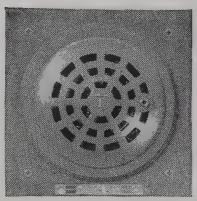
No.	24 V.A.C. 60 Cyc.	24 V.D.C.	115 V.A.C. 60 Cyc.	115 V.D.C.	230 V.A.C. 60 Cyc.	Approx. Weight
372	**$21.00**	.....	**$21.00**	.....	**$25.00**	6¾
373	.....	**$25.00**	.....	**$25.00**	.....	6¾
374	**18.50**	.....	**18.50**	.....	**23.00**	5¾
375	.....	**23.00**	.....	**23.00**	.....	5¾

25 Cycles or other voltages up to 250 V.A.C., supplied, if specified. No. 372, **$25.00**; No. 374, **$23.00**.

Other voltages up to 250 V.D.C., supplied, if specified. No. 373, **$25.00**; No. 375, **$25.00.**

No. **349** Cast Back Box and Gasket for Underwriters' Listed weatherproof installation is drilled and tapped on top to take ½-inch conduit. Bosses are also provided in the back and at the bottom which can be drilled on the job for unusual mounting requirements. Weight, 2 lbs.....price **$6.00**

EDWARDS FLUSH HORN



This flush horn has the same characteristics and mechanism as the Adaptahorns. Size: 6½x6½ inches. Wallcut size: 5⅝ x5⅝x3 inches deep. Weight, 3¾ lbs.

Prices include special wall box.

No.	Description	Price
370	25 or 115 volts, A.C. (specify).....	**$30.00**
370	230 volts, A.C.....	**34.00**
	25 Cycles or other voltages up to 250 volts, A.C., supplied, if specified.....	**34.00**

No. 5420 WATERTIGHT SCREECH HORN

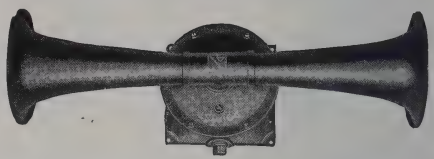
Louder than the ordinary horn. Approx. 115 Decibel rating at 3 feet indoors. Has extended steel projector and cast base. Base is fastened to bracket for wall or ceiling mounting. Swivel action of bracket permits mounting in any desired direction.

For 115-volt D.C. or 60 cycle operation.

Price, No. **5420** A.C. ..... each **$60.00**
No. **5421** D.C. ..... each **75.00**

EDWARDS HORN

TWO DIRECTIONAL MEGAPHONE TYPE HORN

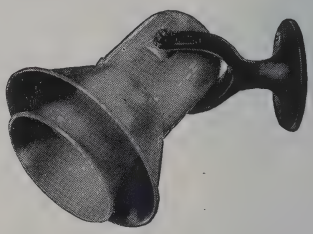


Used in yards, etc., where large areas must be covered and signals must be directed in opposite directions. Thoroughly gasketed for outdoor use. Overall size 5½ inches high, 9 inches deep, 17¼ inches long.

Price, No. **313** Two Directional Megaphone Horn .....each **$33.50**

EDWARDS SIREN

No. 315 SIREN



Ideal for all industrial signaling purposes (except coding) or as railroad warnings, fire or other emergency alarms. It is also used for traffic clearing, drawbridges and other institutional uses.

Has 115-volt, 60 cyc., or D.C. universal motor totally enclosed. Can be supplied for 250 or lower voltages at no additional charge if the voltage is specified. Projector is aluminum. Intake is adequately screened. Entirely weatherproof. Has conduit connection and swivel bracket to permit mounting at any angle. Standard finish, Red Duco. Weight, 15½ pounds. Standard package 1.

Price, No. 315 Siren.....each **$85.00**

EDWARDS TWIST

Non-electric Twist Chime brings music to the guest's finger tips. Plays a pleasant 2-note melody.

Ivory plastic escutcheon and knob harmonize with any type of architecture. No wires — easy to install by drilling and fastening back box.

No. 1631 has extension shaft (1600-L) for doors thicker than 2⅛ inches or for door jamb mounting.

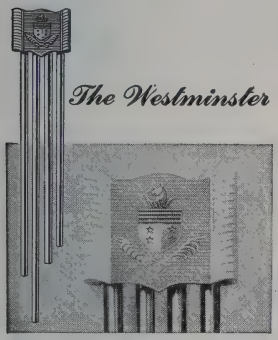
Operating demonstrator available.

No. 1631 Twist Chime.....**$3.95**

EDWARDS DOOR CHIMES

Door Chimes by Edwards have always been recognized for their excellence of tone quality and outstanding beauty.

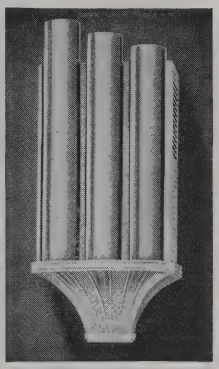
Precision tests guarantee perfect tone quality of all tubes and tone bars in Edwards' chimes.



This chime is of classic design and coloring, gold and burgundy on grey set off by an ivory trim, harmonizes with any style of interior. Oversized tubes give a deeper and more resonate tone to the front-entrance, 8-note Westminster Melody and 2-note, rear-door sequence. Third signal may be used as dinner call, maid's call, etc. Comes complete with transformer. Size: 9 inches wide, 55½ inches long, 4⅜ inches deep. Operating demonstrator available.

No. **1638** Westminster Chime.....**$44.95**

The Chordette



Exceptionally popular — the Chordette does double musical duty in the home.

Soft, melodious chord says "welcome" as long as entrance button is pressed. Two-note sequence makes easily distinguished rear-door signal.

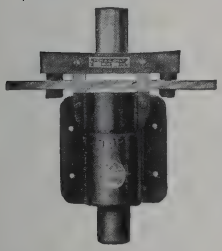
Styled with classic simplicity, comes in two beautiful finishes.

Dimensions: 11½ inches high; 5 inches wide; 3 inches deep.

Operating demonstrator available.

No. **1636** Mahogany Chime with Brass Pipes **$7.95**
No. **1637** White Chime with Chrome Pipes.... **7.95**

EDWARDS DIRECTORY CHIME



Sounds a prolonged musical call note for department store executives, hospital fire alarm signals, etc. Furnished with special wall mounting plate. Standard finish: light grey with polished nickel tone bar and resonator. Standard voltage: 24 volts D.C. and 24 volts 60 cycles. Other voltages available.

Price, No. **18** Directory Chime.....each **$26.50**

EDWARDS FLUSHCALL LINE

A modernized line of devices to replace old-fashioned doorbells, buzzers, combinations, transformers, and push buttons. Each device fits standard switch boxes, outlet boxes and fittings and takes standard toggle or receptacle plates. No-contact design for A.C. only, assuring long life with no adjustment needed. Can be ganged with switches, receptacles, etc.

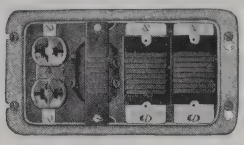


Illustration shows ideal arrangement consisting of Duplex receptacle, Powacall and audible signals which may be covered by standard plate, instead of transformer in cellar, bells high on wall and convenience outlet low on wall. Transformer takes power from same line as receptacle. Because of depth of Powacall transformer, this combination uses 2½-inch deep box. See description of Powacall below. 24 volts should be used where quantity of devices is to be operated in multiple at once.

The Ringcall

Flush bell with better tone and more carrying power.

8-10 V. A.C.			24 V. A.C.		
No.	Std. Pkg.	Price Each	No.	Std. Pkg.	Price Each
660	6	**$1.50**	**760**	3	**$1.85**

The Buzacall

Flush buzzer with better tone and more carrying power. Over 100% variation in tone possible.

8-10 V. A.C.			24 V. A.C.		
No.	Std. Pkg.	Price Each	No.	Std. Pkg.	Price Each
661	6	**$1.45**	**761**	3	**$1.75**

The Tucall

Flush combination bell and buzzer.

8-10 V. A.C.			24 V. A.C.		
No.	Std. Pkg.	Price Each	No.	Std. Pkg.	Price Each
662	6	**$2.35**	**762**	3	**$2.35**

The Melocall

Soft single stroke for third signal, dining room-kitchen call, and similar uses.

8-10 V. A.C.			24 V. A.C.		
No.	Std. Pkg.	Price Each	No.	Std. Pkg.	Price Each
663	3	**$2.05**	**763**	3	**$2.35**

Powacall

Flush transformer. Fits in second gang of standard 2½-inch deep box with other Flushcall devices described above. Acts as barrier for either outlet or switch box. Underwriters' Approved.

	Voltage		Std.	Price
No.	Primary	Secondary	Pkg.	Each
666	115, 50-60 Cyc.	10	3	**$3.10**

No. 664 Togelpush

Fits any standard box, takes standard toggle plate.

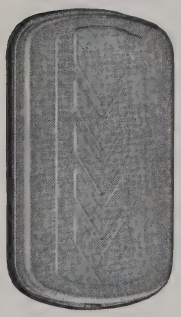
No.	Description	Std. Pkg.	Price Each
664	The Togelpush	6	**$0.40**

EDWARDS STREAMLINED DOORBELLS AND BUZZER

Beautifully streamlined for standard, modern appearance. Aluminized finish is lasting and harmonizes with any wall color. All bell movements have straight hammer rods and solid hammer balls, giving more power and smoother action on battery or transformer.

Large magnets, correctly designed phosphor-bronze springs, silver contacts and fine workmanship make these the finest, low-cost bells ever produced.

The small buzzer has an unusually powerful mechanism and is adaptable for a multitude of uses. Fully insulated, it is ideal for mounting on metal desks, metal frames, etc. Large magnet, correctly designed phosphor-bronze spring, silver contacts, make this fully enclosed buzzer a perfect complement to the new line of doorbells.



COVERED BELL AND COMBINATION

Non-adjustable, fully enclosed bell or combination. Aluminized finish, will harmonize with any wall color. Only 5¼ inches long, 3 inches wide, 1 inch deep.

The Dixie Bell

No.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
720	12	6	$1.00

The Buzabel Combination

730	12	6	1.60

DIXIE BUZZER

Non-adjustable, fully enclosed. Ideal for mounting on metal desks, metal frames, etc. Aluminized finish. Only 2¾ inches long by 1¾ inches wide.

No.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
725	12	2¼	$0.85

NUBEL—ENCLOSED BINDING POST TYPE

Enclosed binding post type bell available with 2½-inch or 4-inch gongs.

Aluminized bases and gongs. Non-adjustable.

With 2½-inch Gong

No.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
740	12	4¼	$0.90

With 4-inch Gong

744	3	2	1.60

EDWARDS BELLS AND BUZZERS

No. 156 MONITOR BELL

An entirely self-contained bell of neat appearance. The hammer-rod moves on a straight line and strikes the inside of the gong. This allows the bell to be made bug and dust-proof. 3-inch gong.

No.	6-8 V.D.C. 8-10 V. 60 Cyc.	24 V.D.C. or 60 Cyc.	Other Volts to 48 V.
156	$3.00	$4.50	$7.00

No. 13 LUNGEN BELL

Lungen bells have the same fine construction as Lungen buzzers. Finish, polished chrome. Phosphor-bronze springs. Contacts pure hard-drawn silver, and double locking adjustment.

8-10 V., 60 Cyc., 6-8 V.D.C.

Size In.	Price Each	Size In.	Price Each
1	$4.10	2½	$4.00
1¾	3.80	3	4.10

Other voltages on request.

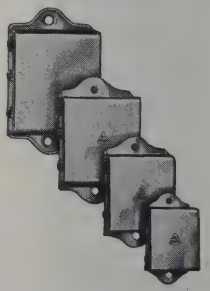
No. 15 LUNGEN BUZZER

8-10 V., 60 Cyc., 6-8 V.D.C.

Size In.	Dimens. Inches	Price Each
0	1½x1⅝	$3.30
1	2⅛x1⅞	3.10
2	2⅝x2⅛	3.30
3	3 x2½	3.50

Standard package 3. Other voltages on request.

No. 115 NO-CONTACT A.C. BUZZERS



Completely insulated. Convenient for metal desks, etc. Completely covered. Internal binding posts. Standard finish, polished chrome.

Standard package 3.

Size In.	Price 8-12V.	Price 24V.
1 (2⅛x1⅛)	$2.90	$3.10
2 (2⅝x1¾)	3.10	3.30
3 (3 x2)	3.30	3.50
4 (3½x2¼)	4.50	4.75

No. 55 EDWARDS BELLS

Standard Voltage

8-10 Volts, 60 Cyc., 6-8 Volts D.C.

This single magnet bell is especially designed for low cost burglar alarm and similar work.

It is of the adjustable, non-weatherproof type.

Has light grey finish with nickel gong.

Standard package, 1.

Size ..... inches	4	6
No. 55 ..... each	$4.50	$5.50

EDWARDS ECONOMY BELLS

Standard Voltage
8-10 Volts, 60 Cyc., 6-8 Volts D.C.

This is a covered, double magnet bell for low cost burglar alarm and similar work.

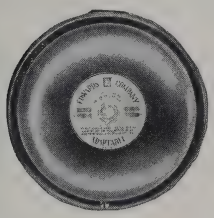
Adjustable. Bakelite insulation. Finish, grey. Standard package, 1.

Size ..... inches	4	6
No. 17 ..... each	$9.50	$11.60

EDWARDS ADAPTABEL

Underwriters' Approved

VIBRATING TYPE—No. 340



This new Vibrating Type Adaptabel meets every normal noise condition. For factories, offices, stockrooms, schools, and boiler rooms. Back plate easily mounted on wall or any switch box, outlet box, Condulet or Wiremold type fitting. Wires connected direct to plate. Large, convenient binding posts give plenty of working room. Slip Adaptabel on the sturdy hanger — no nuts or screws, then push Adaptabel home and fasten with exposed screw.

Size Inches	24V. A.C. 60 Cyc.	115V. A.C. 60 Cyc.	25 Cyc. or Other Voltages to 250 V.	Approx. Wt. Lbs.
4	$20.00	$25.00	$30.00	3¾
6	28.50	33.50	38.50	6
10	37.50	40.00	50.00	9½

Additions	4-Inch	6-Inch	10-Inch
For Brass or Bell Metal Gong	$5.00	$11.00	$20.00
For Full Cast Grid	12.50	12.50	15.00
For Slotted Gong	4.00	4.00	4.00
For Yard Type Hood	32.50	32.50	32.50

For Weatherproof Installations

The standard No. 340 Adaptabel is designed, and has withstood tests, for average interior or protected exterior conditions. Underwriters' "Weatherproof Listing" or most severe conditions require a No. 348 or No. 349 gasketed aluminum back box. These boxes are drilled and tapped on the top to take ½-inch surface conduit. Bosses are also provided in the back and at the bottom which can be drilled for unusual mounting requirements.

No. **348** Cast Back Box and Gasket for 4-inch No. 340 Adaptabel..... **$6.00**

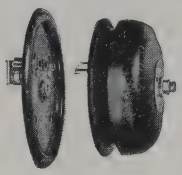
No. **349** Cast Back Box and Gasket for 6-inch or 10-inch Adaptabels..... **6.00**

For Single Stroke AC and DC Adaptabels, and Vibrating DC Adaptabels, data and prices on request.

FARADAY UNIPACT BELLS

HEAVY DUTY—UNDERDOME TYPE
AC AND DC

Underwriters Listed for Outdoor or Indoor Use



Faraday UniPact Bells have the Power-Pact mechanism insuring clean cut signals of maximum volume and clear bell tone. UniPact dead front adapter plate furnished with each bell facilitates mounting over 4-inch square or octagon outlet box, Condulet or Wiremold fitting — and permits safe interchange of bell with any other UniPact signal. (The 4-inch size is not equipped with UniPact feature).

Standard finish — black wrinkle enamel with black parkerized gong. Red enamel base if specified at no extra charge.

VIBRATING BELLS

No. 2000—For AC Operation

Gong Size Inches	Std. Pkg.	Wt. Lb.	24 V.	115 V.	Other Voltages to 250 V.	*Series Operation
4	1	4	$20.00	$25.00	$30.00	.....
6	1	5	28.50	33.50	38.50	$33.50
10	1	10	37.50	40.00	50.00	40.00

No. 2000-W—Weatherproof—For AC Operation

6	1	5	34.50	39.50	44.50	39.50
10	1	10	43.50	46.00	56.00	46.00
Discount Schedule:			S	S	S	C

No. 2020—For DC Operation

Gong Size Inches	Std. Pkg.	Wt. Lb.	9 V.	24 V.	115 V.	Other Voltages to 250 V.
6	1	5	$28.50	$30.00	$33.50	$38.50
10	1	10	37.50	37.50	40.00	50.00

No. 2020-W—Weatherproof—For DC Operation

6	1	5	34.50	36.00	39.50	44.50
10	1	10	43.50	43.50	46.00	56.00
Discount Schedule:			S	S	S	S

SINGLE STROKE BELLS

No. 2005—For AC Operation

Gong Size Inches	Std. Pkg.	Wt. Lb.	24 V.	115 V.	Other Voltages to 250 V.	*Series Operation
4	1	4	$20.00	$25.00	$30.00	.....
6	1	5	28.50	33.50	38.50	$33.50
10	1	10	37.50	40.00	50.00	40.00

No. 2005-W—Weatherproof—For AC Operation

6	1	5	34.50	39.50	44.50	39.50
10	1	10	43.50	46.00	56.00	46.00
Discount Schedule:			S	S	S	C

No. 2010—For DC Operation

Gong Size Inch	Std. Pkg.	Wt. Lb.	9 V.	24 V.	115 V.	Other Voltages to 250 V.	*Series Operation
4	1	4	$20.00	$23.00	$25.00	$30.00	.....
6	1	5	28.50	30.00	33.50	38.50	$33.50
10	1	10	37.50	37.50	40.00	50.00	40.00

No. 2010-W—Weatherproof—For DC Operation

6	1	5	34.50	36.00	39.50	44.50	39.50
10	1	10	43.50	43.50	46.00	56.00	46.00
Discount Schedule:			S	S	S	S	C

For Full Dome Guards—All Above:
No. 318 for 6-inch Bells—add to list..... **$12.50**
No. 319 for 10-inch Bells—add to list..... **15.00**

*These bells wound for series operation on Fire Alarm Systems.

FARADAY "A" BELLS—D.C.

HEAVY DUTY—VIBRATING—PIVOTED ARMATURE

A rugged, heavy-duty unit with pivoted armature, contact spring tension adjustment, coin silver contacts, and two heavy magnet coils.

Moisture-proof. Coils specially impregnated. Cast iron frames, gasketed cover. Should be used outside only with weatherproof protective housing. Black wrinkle enamel frame and black parkerized gong are standard. Red frame with black gong at no extra charge if specified. Hanger plate supplied when specified.

"A"—Direct Current Only

Gong Size	Frame Wdth. (Inches)	H. (Inches)	D. (Inches)	9 V.	24 V.	115 V.	Other Voltages to 250 V.
4	4¼	8¼	2 7/16	$20.00	$23.00	$25.00	$30.00
6	5⅛	11	3⅜	28.50	30.00	33.50	38.50
10	7⅛	16½	3 11/16	37.50	37.50	40.00	50.00
Discount Schedule:				S	S	S	S

Cast Bell Metal Gongs:

4"—add to list, **$5.00**; 6"—add to list, **$11.00**; 10"—add to list, **$20.00**.

Cow Gongs:

2" x 3" on 4" Bells, add to list..... **$ 5.00**
3½" x 5 on 6" Bells, add to list..... **11.00**
4¼" x 6" on 6" Bells, add to list..... **17.50**

Full Grid Guards:

No. 330 for 6" Bells, add to list..... **12.50**
No. 332 for 10" Bells, add to list..... **15.00**

Weatherproof Housings:

No. 320 for 6" Bells, add to list..... **32.50**
No. 321 for 10" Bells, add to list..... **32.50**

FARADAY BUZZERS

FARADAY UNIPACT BUZZERS

Heavy Duty—Quick Change

Equipped with a heavy duty vibrating armature type mechanism that gives a positive, even buzzing tone. All coils are impregnated. Connections are made to back of dead-front adapter-plate which is mounted on standard 4-inch outlet box. Condulet or Wiremold fitting, buzzer or any other UniPact signal is then plugged in. Special adapter-plate for panel mounting is furnished without charge. Specify "P."

Black wrinkle finish, red enamel no extra charge if specified on order.

No. 2008 for AC

Dia. In.	Depth In.	Shpg. Wt. Lbs.	24 V.	115 V.	Other Voltages to 250 V.
6¼	3	5	$15.00	$19.00	$23.00

No. 2018 for DC

			9 V.	24 V.	115 V.	Other Voltages to 250 V.
6¼	3	5	$15.00	$17.50	$20.00	$20.00

Specify exact voltages and cycles.

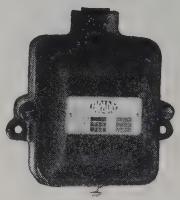
Schedule "C" Discounts

FARADAY BUZZERS

FARADAY STANDARD BUZZER

Underwriters Listed

Heavy Duty Power-Pact Mechanism



For use with exposed conduit, and for mounting directly on panelboards, etc. Frame is cast, tapped for ½-inch pipe thread for connection to ½-inch conduit. Close fitting gasketed cover. Can also be mounted over regular outlet box by means of hanger-plate, which will be furnished without charge when specified. Plunger type mechanism. Loudness rating, 400 M.

Black wrinkle finish, red enamel no extra charge if specified on order.

No. 284 for AC Operation

Frame Width	Height In.	Depth In.	24 V.	115 V.	Other Voltages to 250 V.
4 13/16	5⅛	2⅝	$15.00	$19.00	$23.00

No. 294 for DC Operation

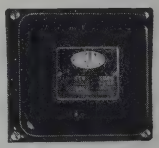
Frame Width	Hght. In.	Dpth. In.	9 V.	24 V.	115 V.	Other Voltages to 250 V.
4 13/16	5⅛	2⅝	$15.00	$17.50	$20.00	$20.00

Shipping weight, 3½ lbs.

Schedule "C" Discounts

FARADAY SUPREME BUZZER

Heavy Duty Pivoted Armature



Highest quality, pivoted armature type, having contact spring tension adjustment, coin silver contacts and two heavy magnet coils. Adjustable tone. For signals of continuous type such as trouble indication on fire alarm circuits, night alarm on switchboards, or in any application where buzzer is liable to operate continuously over long periods of time. Wound for intermittent duty or for continuous duty. Moisture-proof. Close fitting gasketed cover. Loudness rating, 300 M.

Black enamel finish, red enamel no extra charge if specified on order.

No. 100 for AC Operation

Frame Width	Height In.	Depth In.	24 V.	115 V.	Other Voltages to 250 V.
4 5/16	4 1/16	2 5/32	$15.00	$19.00	$23.00

No. 101 for DC Operation

Frame Width	Hght. In.	Dpth. In.	9 V.	24 V.	115 V.	Other Voltages to 250 V.
4 5/16	4 1/16	2 5/32	$15.00	$17.50	$20.00	$20.00

Shipping weight, 2½ lbs.

Schedule "C" Discounts

FARADAY INTERMEDIATE BELLS

VIBRATING NECK TYPE — SOLENOID PLUNGER

Faraday Signal Bell meets the need for a strong, clear signal at a moderate price. For signal work in stores, stock rooms, warehouses, small, light assembly rooms, garages and other places where noise levels are not too high.

The contact type solenoid mechanism with its free running plunger is very compact. It gives a powerful, clear, distinct tone and is sure-fire in operation. The plunger is made of stainless steel.

Neck type bell. Frame is pressed steel with snap-on cover which conceals both mechanism and terminals. All current carrying parts are thoroughly insulated from the frame. Black enameled finish with black parkerized gong. For inside use.

Cat. No.	Gong Size	Shpg. Wt. Lbs.	List Each AC 8-10 DC 6-9 Volts	List Each Special Voltages up to 48 Volts *	Loudness Rating
	4	2	$ 9.50	$13.75	700 M
310	6	4	11.60	16.50	1100 M
	10	7	24.00	29.75	1800 M

*Specify exact voltage and whether AC or DC.

Schedule "S" Discounts

FARADAY MONO-COIL BELLS

VIBRATING — UNIVERSAL

6-8 Volts AC — 3-6 Volts DC

The Faraday Mono-Coil bell is especially suited for light duty interior signal work, low cost burglar alarms, tank level, pressure and general tell-tale alarms. Used in garages, superservice stations, public and office buildings, schools, stores, warehouses, shipping rooms and other places of similar nature.

Non-adjustable with a clapper that operates under the gong. Universal, it operates on either 6-8 volts AC or 3-6 volts DC. Equipped with coin silver contacts of ample size to assure long trouble-free service. Mechanism is grounded to frame. Sturdy exposed terminals. Black enameled frame and black parkerized gong.

Standard package — one.

Cat. No.	Gong Size	Shpg. Wt. Lbs.	List Each	Loudness Rating
	4	2	$4.50	650 M
161	6	4	5.50	1050 M

Special windings up to 48 volts AC or DC, add to list $2.25. Specify exact voltage and whether AC or DC.

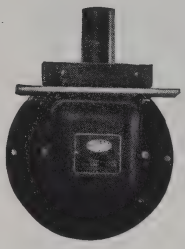
Schedule "S" Discounts

FARADAY CHIMES

UNIPACT AND STANDARD MOUNTINGS

Faraday Chimes are scientifically designed to produce a clear and distinct signal, is effective without being annoying. Mechanism is of heavy-duty, solenoid plunger type, positive in action and designed to minimize hum, overtones, and other objectionable mechanism noises.

UNIPACT MOUNTING



Faraday Unipact chimes come equipped with the Unipact quick-change adapter-plate. All electrical connections are made to the back of this plate. Plate is fastened to the 4-inch outlet box, Wiremold or Condulet fitting, then the chime is plugged into it and is ready for use.

Specify "P" for special adapter-plate for modern plug-in switch board or panel mounting furnished without charge. Loudness rating, 450 M at source.

Black crackle enamel and chrome bar are standard. Red enamel with chrome bar at no extra charge, if specified on order.

No. 228 for AC—No. 208 for DC

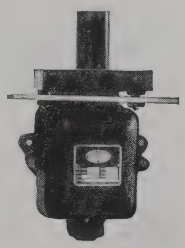
Dimensions: Diameter of plate, 6½ in.; overall height, 8¾ in.; overall depth, 3 inches.

Model	Shpg. Wt. Lbs.	List Each 24 Volt	115 Volt	Other Voltages to 230V. AC	Other Voltages to 250V. DC
228	5½	$26.50	$30.00	$34.00	----------
208	5½	26.50	30.00	----------	$34.00

Models 228 and 208, wound for series operation on Fire Alarm Systems, $30.00.

Schedule "C" Discounts

CONVENTIONAL TYPE MOUNTING



Furnished with a heavy cast iron back tapped for direct entrance of ½-inch conduit.

No. 340 hanger plate will be furnished without charge if specified on order.

Black crackle enamel and chrome bar are standard. Red enamel with chrome bar at no extra charge, if specified on order.

Loudness rating, 450 M at source. Mounting hole centers 4⅞ inches.

No. 227 for AC—No. 207 for DC

Dimensions: Frame width, 6 in.; overall height, 8 in.; overall depth, 2½ inches.

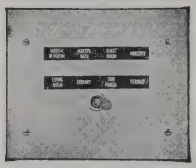
Model	Shpg. Wt. Lbs.	List Each 24 Volt	115 Volt	Other Voltages to 230V. AC	Other Voltages to 250V. DC
227	5	$26.50	$30.00	$34.00	----------
207	5	26.50	30.00	----------	$34.00

Models 227 and 207, wound for series operation on Fire Alarm Systems, $30.00.

Schedule "C" Discounts

EDWARDS ANNUNCIATORS

No. 672 FLUSH TYPE ANNUNCIATORS



All metal case. Flush types can be completely wired before face plate is installed. Standard finish, white enamel. Any other spray finishes, add 20 per cent.

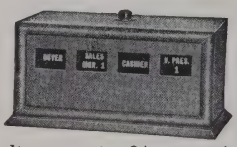
12 volt, 60 cyc. operation with buzzer signal standard. Any A.C. or D.C. voltage up to 48 can be supplied.

No. of Drops	Wall Cut Inches Hght.	Wdth.	Manual Reset	No. of Drops	Wall Cut Inches Hght.	Wdth.	Manual Reset
4	4⅝	5⅞	$27.50	16	6¼	7⅞	$72.00
8	4⅝	5⅞	39.00	20	7⅞	7⅞	90.00
12	4⅝	7⅞	56.00	24	7⅞	7⅞	105.00

For each additional 6 drops, add.....$40.00

Depth 3 inches for all sizes.

No. 673 DESK TYPE ANNUNCIETTES



All metal cases. Small and compact. Standard finishes — mahogany, walnut or oak grain, as specified.

8-12 volt A.C. operation with buzzer signal standard.

Any A.C. or D.C. voltage up to 24, no extra charge. Furnished with cord and connector.

No. of Drops	Dimens., In. Hght.	Wdth.	Price Each	No. of Drops	Dimens., In. Hght.	Wdth.	Price Each
2	2½	4	$45.00	6	2½	7	$80.00
4	2½	5	65.00	8	2½	9	100.00

For each additional 6 drops, add.....$50.00

Depth, 2⅝ inches for all sizes.

No. 130 ELEVATOR ANNUNCIETTES

All metal case, black enameled finish. 8-12 volt A.C. operation with buzzer signal standard. Any A.C. or D.C. voltage up to 24, no extra charge.

No. of Drops	Dimensions No. 130 Height	Width	No. 130D Height	Price Each No. 130	Price Each 130D Up and Down
3	7⅝	2½	--------	$35.00	----------
4	7⅝	2½	--------	37.00	----------
6	9¾	2½	7⅜	44.50	$50.00
8	12¼	2½	7⅜	52.00	62.00
10	14¾	2½	10⅛	59.00	70.00
12	17¼	2½	10⅛	67.00	80.00

Larger sizes, add $8.00 per drop.

Width 4 inches on all sizes of No. 130-D listed.

Depth, 2½ inches.

EDWARDS ANNUNCIATORS

SURFACE TYPE ANNUNCIETTE

No. 82 — MANUAL RESET

New Surface Annunciators that are much smaller and neater than old fashioned types.

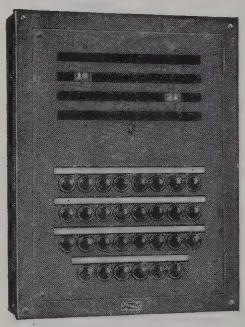
Electro-manual types have magnet reset mechanism. May be actuated from remote places. Ideal for multiple operation or remote control.

No. of Drops	Dimensions, Inches Height	Width	Depth	Price Each
4	4⅜	5¼	2½	$22.00
8	4⅜	5¼	2½	34.00
12	5	7 3/16	2½	50.00
16	7 3/16	7 3/16	2½	65.00
20	7 3/16	7⅞	2½	84.00
24	7 3/16	8⅜	2½	100.00

For each additional 6 drops, add.....$40.00

RETURN CALL ANNUNCIETTES
No. 410 SURFACE TYPE—HAND RESET

Standard Voltage, 8-12 Volts A.C



Used in hotels, institutions, etc., for the purpose of calling the room and receiving acknowledgment from the room that the call has been heard, or vice versa.

Designed to eliminate the large number of wires necessary if the standard annunciator, bells and pushes are used. Presents reduction in size without affecting clearness of indication.

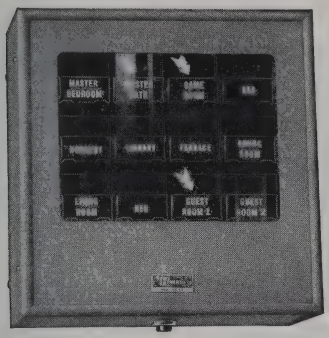
All metal case, surface type, in light gray, mahogany, walnut, oak or any solid spray finish.

No. of Drops	Arrangement Across	Down	Dimensions, Inches High	Wide	Deep	Price Each
25	9	3	14½	13½	3¼	$360.00
30	8	4	16¾	12½	3¼	410.00
36	9	4	16¾	13½	3¼	465.00
42	11	4	16¾	15½	3¼	540.00
49	10	5	19	14½	3¼	610.00
56	12	5	19	16½	3¼	680.00

For each additional drop, add $9.00 to list. For flush type, prices on application.

EDWARDS ANNUNCIATORS

No. 403 SURFACE TYPE—ELECTRIC RESET

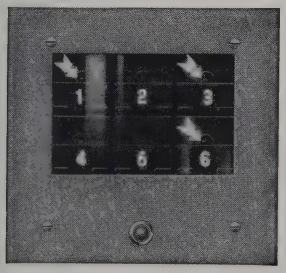


An all metal case of pleasing symmetrical design. The new No. 4 Drop used in these annunciators uses less current and gives a far better indication than any drop heretofore manufactured. The current consumption of the drop both for indicating and resetting is far below the average. The audible signal is a new type double adjustment buzzer. Reset buttons are furnished on case for every 16 drops.

Standard finish is light grey. Requires 16 volts D.C. or 24 volts A.C. at the annunciator.

No. Drops	Arrangement Across	Arrangement Down	Dimensions, Ins. High	Dimensions, Ins. Wide	Dimensions, Ins. Deep	Wt. Lbs. Each	*Price Each
4	2	2	6⅛	5⅛	3	3¾	**$39.00**
8	4	2	6⅛	8⅛	3	5½	**56.00**
12	4	3	8⅛	8⅛	3	7	**75.00**
16	6	3	8⅛	11⅛	3	8¼	**100.00**
20	5	4	10¼	9⅝	3	10	**125.00**
24	6	4	10¼	11⅛	3	12	**150.00**
For each additional 6 drops, add							**50.00**

No. 409 FLUSH TYPE—ELECTRIC RESET

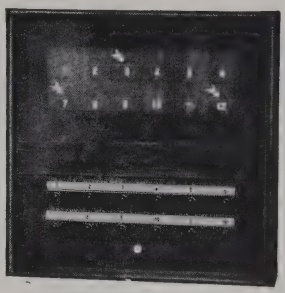


No. Drops	Arrangement Across	Arrangement Down	Dimensions, Ins. High	Dimensions, Ins. Wide	Dimensions, Ins. Deep	Wt. Lbs. Each	*Price Each
4	2	2	7	5⅝	3½	4¼	**$65.00**
8	4	2	7	8⅜	3½	6½	**85.00**
12	4	3	9⅛	8⅜	3½	7¾	**105.00**
16	6	3	9⅛	11⅜	3½	10½	**130.00**
20	5	4	11¼	9⅞	3½	11	**150.00**
24	6	4	11¼	11⅜	3½	12½	**180.00**
For each additional 6 drops, add							**50.00**

***For automatic reset feature, No. 403 and 409 annunciators, no extra charge. Prices include steel wall box.**

EDWARDS ANNUNCIATORS

No. 415 RETURN CALL—ELECTRIC RESET



Surface type, metal case; standard finishes, light grey, mahogany, walnut, oak or any solid spray finish, as specified. Requires 8 volts D.C. or 16 volts A.C. at the annunciator. For the same purpose and use as No. 410 annunciator, but with electric reset.

Standard arrangement is one reset for every 16 drops. In the hand reset annunicator all drops that are down are reset, and the electric reset annunicator allows the individual resetting of each drop where desired.

*No.of Drops	Arrangement Across	Arrangement Down	Dimensions, Ins. High	Dimensions, Ins. Wide	Dimensions, Ins. Deep	Wt. Lbs.	Price Each
25	9	3	20¼	20	3¾	23	**$360.00**
30	10	3	20¼	21½	3¾	25	**410.00**
36	9	4	23¾	20	3¾	28	**465.00**
42	11	4	23¾	23	3¾	33	**540.00**
49	10	5	27¼	21½	3¾	37	**610.00**
56	12	5	27¼	24½	3¾	41	**680.00**
64	13	5	27¼	26	3¾	46	**765.00**
72	15	5	27¼	29	3¾	52	**835.00**
81	14	6	30¾	27½	3¾	57	**925.00**
90	15	6	30¾	29	3¾	62	**1010.00**
100	15	7	34¼	29	3¾	69	**1100.00**

***For more than 100 drops add to list price, per drop, $12.00. General Call Button, prices upon application (not made in intermediate sizes). Equipped with flush type cases, prices on application.**

RAILWAY ANNUNCIATORS
No. 813 SURFACE TYPE

A small and shallow design for the limited space of Pullman and similar railway cars. Flush type is particularly adapted to modern streamline design cars. Furnished standard with 3-inch No. 156 Monitor Bell. Adapted for chime signal instead of bell. Flush type may be supplied. Standard finish: grey, grained or solid spray finishes if specified. 8-12 volts, 60 cycles, or 6-8 volts D.C.

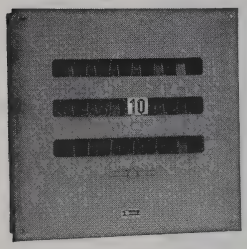
No. of Drops	Arrangement Across	Arrangement Down	Dimensions, Ins. High	Dimensions, Ins. Wide	Dimensions, Ins. Deep	Wt. Lbs.	Price Each
4	4	1	4 1/16	6 9/16	2 13/16	3	**$40.00**
6	6	1	4 1/16	8 9/16	2 13/16	3¼	**50.00**
8	8	1	4 1/16	10 9/16	2 13/16	3¾	**60.00**
10	10	1	4 1/16	12 9/16	2 13/16	4	**70.00**
12	6	2	5⅛	8 9/16	2 13/16	4¼	**80.00**
14	7	2	5⅛	9 9/16	2 13/16	5¼	**90.00**
16	8	2	5⅛	10 9/16	2 13/16	5½	**100.00**
18	9	2	5⅛	11 9/16	2 13/16	6½	**115.00**
20	10	2	5⅛	12 9/16	2 13/16	6¾	**140.00**
22	11	2	5⅛	13 9/16	2 13/16	7½	**150.00**
24	12	2	5⅛	14 9/16	2 13/16	7¾	**175.00**

Larger sizes, add per drop **$8.00.**

For Flush type, prices on application.

EDWARDS ANNUNCIATORS

No. 807 HIGH VOLTAGE TYPE



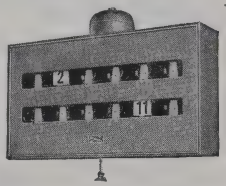
No. 807-F

Hand reset only. 115 volts direct or alternating current standard. Other voltages up to 250 volts, can be supplied. Has a metal case with double micarta backboard on which are mounted the No. 80 drops. Care has been given to the insulation of all current carrying parts, eliminating all materials affected by heat or moisture. Price includes a four-inch bell which may be installed adjacent to the annunciator or where desired. Annunciator is wired with marked connectors for this purpose. Standard finish light grey. Other finishes can be furnished at extra charge.

No. of Drops	Arrangement Across	Arrangement Down	Dimensions, In. High	Dimensions, In. Wide	Dimensions, In. Deep	Price Each
4	4	1	7½	10½	3¾	**$100.00**
6	3	2	9¾	9	3¾	**125.00**
8	4	2	9¾	10½	3¾	**150.00**
10	5	2	9¾	12	3¾	**165.00**
12	6	2	9¾	13½	3¾	**185.00**
Larger sizes, add per drop						**$14.00**

For 250 volts add **$3.00** list per drop.

No. 803 SPRINKLER ANNUNCIATOR



Metal case, hand reset, light grey finish. Special drops are used in this annunciator having a double set of contact clips, one set to short the drop magnet out of the circuit in operation, and the other set to act as a relay to give the current a free path to the bells. With this arrangement the supervisory system may be laid out so that the operation of certain sprinkler heads will operate individual bells, section bells or any arrangement that is desired.

No. of Drops	Arrangement Across	Arrangement Down	Dimensions, In. High	Dimensions, In. Wide	Dimensions, In. Deep	Price Each
4	4	1	5¼	10⅛	3¼	**$80.00**
6	3	2	7¾	8⅛	3¼	**100.00**
8	4	2	7¾	10⅛	3¼	**120.00**
10	5	2	7¾	12⅛	3¼	**135.00**
12	6	2	7¾	14⅛	3¼	**150.00**
Larger sizes, add per drop						**16.00**
For flush mounting, add						**30.00**

No. 156 Monitor Bell mounted on case unless otherwise specified.

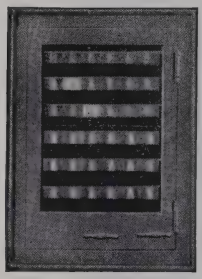
LAMP ANNUNCIATORS

Extensively used in large offices, banks and institutions. More attractive and compact and signals are more easily recognized than the old style target type. Each signal has individual lamp and socket. Buzzer signal furnished with each annunciator.

Prices and details on request.

EDWARDS ANNUNCIATORS

No. 808 CENTRAL STATION ANNUNCIATOR



No. 808 Illustration Shows Hinged Type

Used in generating and sub - stations to indicate visibly and audibly such trouble as oil temperature changes, opening of circuit breakers, overheated bearings and high or low tank levels. Designed for direct connection to open circuit auxiliary circuit breaker contacts, thermostats, tank switches, etc. Each indicator substantially built and designed to eliminate its own magnet from the circuit immediately, precluding possibility of burnout irrespective of length of time operating contact is closed but leaving all other indicators in service. Bell rings continuously until silenced by resetting "bell drop," but indicator cannot be restored until source of trouble is corrected. Silencing the bell in conjunction with one indicator does not prevent its subsequent operation with any other indicator.

Remote reset, accessory lamp signals, auxiliary sub-annunciators and other special features can be furnished, price and details on application. 1x1½-inch indications marked as specified. Heavy steel case. Bakelite insulation throughout; complete annunciator tested on 1250-volt R.M.S. for one minute breakdown. Furnished for panel mounting, surface or flush as specified. 4-inch bell furnished for mounting where desired — horn furnished if specified. Dimensions furnished upon receipt of information regarding number of drops and arrangement desired.

Special features: Can be furnished for closed circuit operation on D.C. only. Any annunciator may contain a number of closed circuit drops, and a number of open circuit drops. Available also in Bull's Eye type or Opaque lamp type. Details supplied on request.

Standard finish: Light Grey. 115 volts, 60 cycles or D.C. Specify which required. For voltage from 140 to 250 volts, specify exact voltage, add **$3.00** list per drop. For studs for back panel mounting, add to list per drop **$1.75**. For extra set of upper or lower contact clips add **$3.00** list per drop.

Surface type standard. Can be supplied for flush mounting add to list **$35.00**. For hinged doors, add **$15.00** per door.

No. of Drops	Wt. Lbs. Each	Price Each	No. of Drops	Wt. Lbs. Each	Price Each
4	7	**$145.00**	10	12	**$240.00**
6	8	**180.00**	12	14	**260.00**
8	10	**200.00**	----	----	----------
Larger sizes, add per drop					**$16.00**

SPECIAL ANNUNCIATOR FEATURES

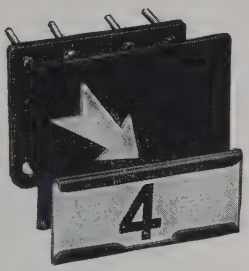
EDWARDS INDIVIDUAL DROPS

No. 80 HAND RESET DROP

As used in all hand reset annunciators except annunciettes.

No.	Description	Price Each
80	Hand Reset Drop	$7.00

No. 4 ELECTRIC RESET DROP



Used in all electric reset annunciators. The indication is a white arrow which points directly at the name card. When reset, arrow drops out of sight. Front is of plain glass and as arrow is between the glass and a dull black background, it can be seen from any angle. No springs or contacts. Cannot shake or jar out of adjustment. It is locked in normal position and cannot indicate until current is passed through magnets.

No.	Description	Price Each
4	Electric Reset Drop	$10.00

SPECIAL ANNUNCIATOR FEATURES

Automatic Reset Annunicators, add to list **$25.00.**

Closed Circuit Annunciators. Add **$14.00** list per drop. No. 81 Hand Reset Annunciator for D.C. operation only.

Special Voltage, up to 12 V., 60 Cyc. or 8 V. D.C. no extra charge. Up to 48 V. add to list 25%.

Special Finishes: Any solid spray color, add to list 20%. Grained wood finishes, add to list 25%. Solid brass or bronze case, add to list, 4 to 8 drops, **$30.00**; 12 to 24 drops, **$50.00.** Chromium finish, price on application.

Electric Reset with pushes on case, per push, **$6.00** list. With terminals only for remote control, per terminal, **$1.00** list.

Special Arrangement of drops, add to list, 4 to 8 drops, **$15.00**; 12 to 24 drops, **$20.00**; 25 to 48 drops, **$30.00**; 50 drops or over, **$75.00.**

Special Markings other than number, per drop, **$0.40** list.

Bell instead of Buzzer, add to list **$10.00.**

Switch on case (SPST or SPDT), **$15.00** list.

EDWARDS RETURN CALL DEVICES

No. 139 RETURN CALL FOR A.C.

Flush Non-Indicating Type

No. 139

This return call station replaces all old-fashioned stations except where D.C. operation is required. It fits any standard single-gang switch box 2⅜ inches deep and takes any standard push button switch plate.

Buzz audible signal has no contacts or pivots and requires no adjustment. May be varied, after installation, from loud tone to a soft high tone through hole in sub-plate. Marked binding posts are easily accessible.

24 volts 60 cyc. standard, up to 48 volts A.C. can be supplied. Price does not include plate.

Price, No. **139** Return Call.....each **$7.30**

No. 140 RETURN CALL FOR A.C.

Flush Indicating Type

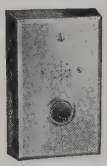
No. 140

Has Annunciette type drop, which leaves a visual signal. Operation of push button, when call is answered, automatically resets drop. Recommended for use in places where it is desirable to leave an indication that a call has been made during the occupant's absence. Fits any standard single gang switch box 2⅜ inches deep, and takes any standard push button switch plate. Replaces old-fashioned stations except where D.C. operation is required.

24 volts A.C. standard. Price does not include plate.

Price, No. **140** Return Call.....each **$15.00**

No. 136 SURFACE TYPE FOR D.C. OR A.C.



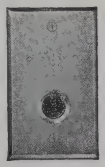
No. 136

Designed for installation in existing buildings. Provides a neat appearing plate mounted on a shallow cast box, which provides entrance for conduit or open wires. The audible signal is an Edwards double adjustment Lungen buzzer, and station is completely wired for installation with Edwards No. 265 return call push.

The cast box is rubberoid black, plate brushed brass or nickel. Standard package, 1.

Price, No. **136** With Metal Plate.....each **$9.75**
Price, No. **136-B** With Bakelite Plate....each **10.00**

No. 137 FLUSH TYPE FOR D.C. OR A.C.



No. 137

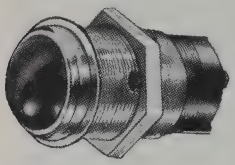
For mounting on standard single gang switch box. Audible signal is an Edwards double adjustment Lungen buzzer; station is completely wired for installation with the special Edwards No. 265 return call push.

Standard finish, brushed brass or nickel. Standard package 1.

Price, No. **137** With Metal Plate.....each **$8.20**
Price, No. **137-B** With Bakelite Plate....each **8.75**

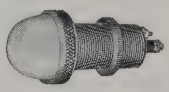
KIRKLAND PILOT LIGHT UNITS

All Units on this page are for single-hole panel mounting. All Lens caps are removed from the front of the panel, permitting lamp bulb servicing. For 220-440 volt service see Resistor recommendations.



No. 600 Unit: Underwriters' approved unit for 120-volt service. Uses S6, 3 or 6-watt tungsten bulb, with candelabra base. Smooth cupped lens, interior sandblasted. Mounts in 1⅜ in. diameter hole. Overall depth behind front of panel 2¼ inches. Special flat lens for letters or numbers.

Price, No. **600** Unit.....**$2.30**
(With Characters) **2.80**



No. 590 D/E Unit: Underwriters' approved unit for 120-volt service. Uses S-6 tungsten or T4-½ neon candelabra base bulb. Deeply cupped glass lens. Interior sandblasted. Mounts in ⅞ in. diameter hole. Overall depth behind front of panel 2$\frac{1}{16}$ in. Lamp protrudes into lens providing wide range of visibility.

Price, No. **590** D/E Unit.....each **$1.80**

No. 590 Unit: Underwriters' approved unit for 120-volt service. Uses T4 tungsten or T4-½ neon candelabra base bulb. Smooth plastic lens, in small lens cap 1$\frac{1}{16}$ in. diameter. Mounts in ⅞ in. diameter hole. Overall depth behind front of panel 2$\frac{1}{16}$ in.

Price, No. **590** Unit.....each **$1.50**

No. T2SLC Unit: A superfine unit for use with the low current T2 slide base bulb (.038 max. amp on 24 volts). A molded bakelite lamp holder in a lathe-machined metal housing. Screw type lens cap of metal with plastic lens. Mounts in $\frac{11}{16}$ in. hole. Overall depth behind front of panel 2¼ to 2 inches. Resistors for 120-220-440 volt service.

Price, No. **T2SLC** Unit.....each **$2.60**

No. 170 SP Unit: Underwriters' approved built for 120-volt service. Uses S6 candelabra screw base bulb. Flat glass (2 in. dia.) lens for letters and numbers. Any color effect. Mounts in 1⅝ in. dia. hole. Overall depth behind front of panel 2$\frac{1}{16}$ in. Chrome lens cap.

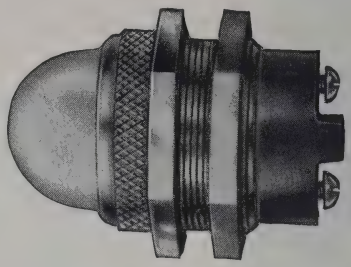
Price, No. **170** SP Unit.....each **$3.00**
Characters, add .....each **3.50**

SIGNAL LAMP RESISTORS

A resistor is used in series with a lamp, for the purpose of operating a 120-150 volt lamp on 220-440 volts; 24 volt lamp on 120 volts, etc. These resistors are of the highest quality and made with this particular service in view.

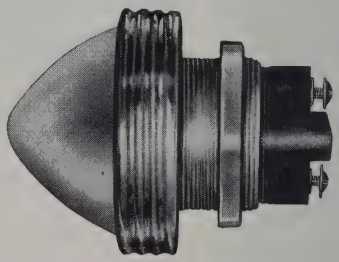
Type No.	Description	Price Each
220	120-150 v. lamps on 220 v. service	**$0.80**
440	120-150 v. lamps on 440 v. service	**1.00**
TDR	For use with T2-24 v. lamp on 120 v. service	**.80**
TER	For use with T2-24 v. lamp on 220 v. service	**.90**
TFR	For use with T2-24 v. lamp on 440 v. service	**1.80**
	Resistors on bracket, extra	**.20**

KIRKLAND PILOT LIGHT UNITS



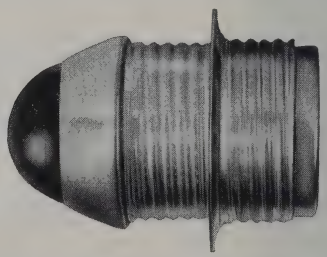
No. 659 D/E DeLuxe Unit: A unit of extra heavy duty construction for use with 120-volt S6 tungsten or T4-½ neon candelabra screw base bulbs. Extremely shallow depth, only 1¼ in. behind the front of panel. Mounts in 1⅜ in. dia. hole. Heavy glass deeply cupped lens. Chrome finish on hexagon holding lip (⅛ in. wide) with black finish on metal lens cap. Underwriters' Approved.

Price, No. **659** D/E Unit.....each **$3.00**



No. 180-SP Unit: An Underwriters' approved unit for 120-volt service. Uses S6 tungsten candelabra screw base bulb. 2-in. diameter beehive lens, deeply cupped. Side visibility range. Ideal for panels with heavy apparatus. Overall depth behind front of panel 1¼ inches. Mounting hole 1⅜ in. diameter. Chrome plated metal lens cap.

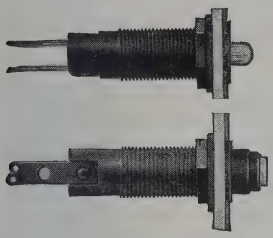
Price, No. **180-SP** Unit.....each **$3.00**



Nos. G10 and G11 Units: Units that so house the bulb that the effect of a lens is created. Standard screw socket. G10 uses G10 neon bulb. G11 uses 7-watt tungsten G11 bulb, both on 120 volts. Ideal when lights are on constantly, due to good ventilation. 1⅜ in. dia. mounting hole. Overall depth behind front of panel 1¾ in. Highly polished chrome finish. Similar unit for S-14 and S-11 bulb.

Price, Nos. **G10, G11, S14** and **S-11**.....each **$3.00**

KIRKLAND PILOT LIGHT UNITS



No. T2 Lampholder Unit: Lampholder molded of bakelite. Mounts in 37/64-in. diameter hole. Overall depth behind front of the panel 2¾ to 2¼ inches.

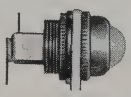
Uses T2 slide base low current bulb. (.038 max. amp. on 24 V.) Resistors for 120-220-440 volts. Slip-fit lens cap used; the T2MC glass lens in metal cap.

Resistor and bracket available for mounting with unit, requiring no extra holes or bolts. An ideal unit where space is limited.

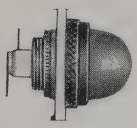
Price, T2 lampholder.....**$0.75**; T2MC cap.....**$0.75**

Series S/C Units: For use with single-contact miniature bayonet base bulbs. Type T3-¼ low voltage bulbs and neon NE51 bulbs.

Type S/C 59PL: Overall diameter 1⅛ in.; mounting hole ⅞ in. diameter. Overall depth behind front of panel 1⅛ in.....each **$1.50**



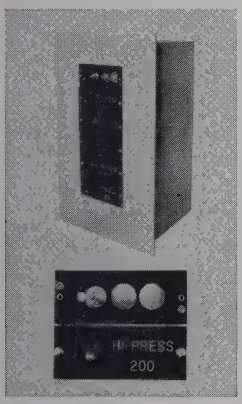
Type S/C 59 D/E: Overall diameter 1⅜ inches; mounting hole, ⅞ in. diameter. Overall depth behind front of panel 1 inch.....each **$1.80**



LAMP ANNUNCIATORS—HEAVY DUTY TYPE

TYPE MLBR

For Industrial and Utility Plants



"Tells Tales on Troubles" Instantly

Audible Signals Command Human Attention

Automatic Features Insure no Lost Alarms

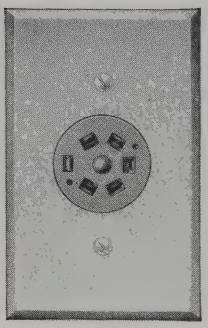
Modern in Design, Low in Cost

Illuminated Message Area 2 inches wide by 1 inch high. Individual boxes molded of bakelite, (3¾x1½ inches) with plug-in relay.

Typical Service: (Type MLBR-200). When trouble occurs: (1) audible sounds, message lighted in red and white; (2) operation of toggle switch removes audible, changes message to white; (3) restoration to normal sounds audible again, changes message to red; (4) operation of toggle switch removes audible signal and all light from message. (When audible is removed from one or more circuits it is still available for alarms from any other circuit.) Systems for voltages to 250 V. AC or DC.

EDWARDS NURSES' CALL SYSTEMS

BEDSIDE STATIONS



No. 7601

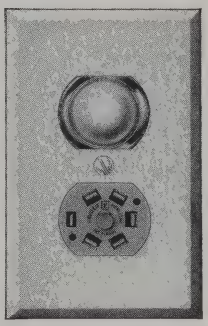
Designed for use primarily in private and semi-private rooms. These stations consist of the Edwards automatic jack for flush or surface mounting, a plug, a six-foot length of cord with clamp and locking button. Cord, plug and button set is washable grey. Stainless steel face plate is standard.

No.	Description	Price Each
7601	Single Cord Bedside Station	**$17.50**
7602	Double Cord Bedside Station	**30.00**

BEDSIDE STATIONS WITH PILOT LIGHTS

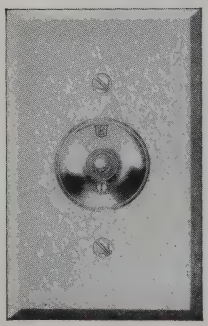
Designed for use primarily in wards or multiple bed rooms, as well as private rooms. Pilot light reassures patient that call has been placed and also in multiple bed rooms indicates to a nurse the station which has called. Pilot light has milk white torpedo shaped lens. Otherwise same as Nos. 7601 or 7602.

Stainless steel face plate is standard. For flush or surface mounting.



No.	Description	Price Each
7611	Single Cord Bedside Station with Pilot Light	**$24.00**
7612	Double Cord Bedside Station with Pilot Light	**36.50**

WALL STATION



Used in solariums, laboratories, etc., where no cord-set is required.

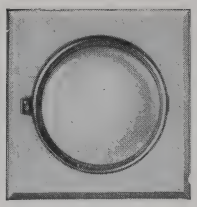
Station is equipped with the same high quality locking push mechanism as is used in cord type stations.

For flush or surface mounting. Stainless steel face plate is standard.

No.	Description	Price Each
7603	Wall Station	**$11.00**

EDWARDS NURSES' CALL SYSTEMS

No. 7031 CORRIDOR LAMP STATIONS



No. 7031

This station is mounted in corridor over room doors. Equipped with glass dome lamp signal held in place by a mounting ring which is hinged to the plate.

Will fit any standard outlet box with 2-gang cover having opening 2⅞x3¾ inches.

Standard finish is white enamel. No outlet box is supplied. Prices on application.

FLUSH BUZZER AND BELL STATION

For diet kitchens, utility and workrooms, where no lamp signals are required or as extension audible signals. Equipped with a mild toned buzzer mounted behind face plate and with a cutout switch.

Fits any standard outlet box with single gang cover with opening 2⅞x1¾ inches.

Standard finish is brush brass or white enamel. No outlet box is supplied.

No. 7137

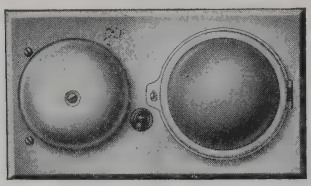
No.	Description	Price Each
7137	Buzzer and Bell Station	$38.50

BALCONY STATIONS

Designed for use on open porches and balconies. Includes automatic jack, 15 feet of cord, locking button, plug, receptacle gasketed with aluminum finished face plate. Screw-on cover secured by chain is provided to protect receptacle when not in use. Station is weatherproof when closed. Takes standard weatherproof plate. For flush or surface mounting.

No.	Description	Price Each
7621	Single Cord Balcony Station	$38.50
7622	Double Cord Balcony Station	55.00

No. 7133 SINGLE DOME PILOT AND BUZZER STATIONS



No. 7133

For diet kitchens, utility rooms, work rooms, etc., where individual room signal is not required.

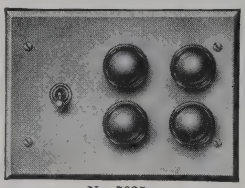
Will fit any deep type outlet box with a 3-gang cover with opening 2⅞x5¾ inches.

Standard finish is brush brass or white enamel.

No outlet box is supplied.

EDWARDS NURSES' CALL SYSTEMS

No. 7035 BULL'S EYE TYPE MULTIPLE LAMP AND BUZZER STATIONS



No. 7035

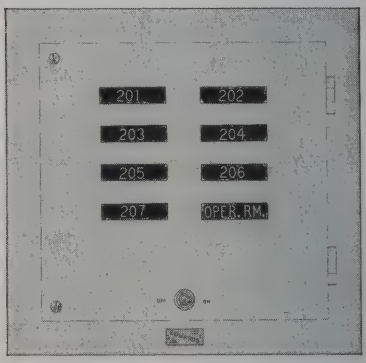
Used in diet kitchens, utility rooms and work rooms where ward and private indications are desired.

Furnished marked for as many indications as necessary. No outlet box supplied up to 8 lamps. Eight lamp stations or over, special outlet box supplied. Standard 2-lamp station requires an outlet box with 2-gang cover having an overall depth of 1¾ inches.

Standard finish is brush brass or white enamel.

Prices on application.

NURSES' STATION ANNUNCIATORS



No. 7042

Nurses' station annunicators, for flush or surface mounting, indicate the room or bed calling. Recommended for use when 8 or more lamps are required. Replaceable individual marking plates for up to 6 characters, indicating origin of call. Mild-toned buzzer inside case has a silencing switch mounted on exterior trim. Emergency feature with additional bell available. Hinged door for easy access to individually partitioned sockets and terminals. Special wall box with knockouts provided for flush mounted units. Standard finish white enamel.

No.	Description
7042	Flush type Nurses' Station Annunciator.
7052	Surface type Nurses' Station Annunciator.

Price on application.

FARADAY HOSPITAL SIGNALING SYSTEMS

NURSES' CALLING STATIONS

Schedule "C" Discounts

No. 162002 Private Room Calling Station. Includes 5-contact yoke mounted receptacle, standard single gang plate finshed as directed and 5-contact plug having connected thereto one 6-ft. cord and locking button.

No. 162003 Ward Calling Station for rooms having more than two stations. Same as No. 162002 except has a bullseye lamp signal mounted above calling station receptacle on same yoke and single gang plate. Each station includes plug, one 6-ft. cord and locking button.

Cat. No.	Description	Price Each
162002	Private room station, single cord	**$17.50**
162003	Ward station, single cord	**24.00**

SMALL DOME DOOR LAMP STATION

For use in corridors over door of each room having a calling station and in ceiling at intersection of corridors to serve as sectional pilot lamps.

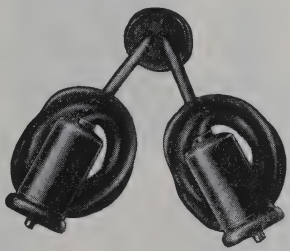
Station consists of 1-gang metal plate, lamp receptacle, lamp, and 2-inch glass dome. Unit limited to only one lamp.

For flush mounting, use standard depth 4-inch square outlet box with 1-gang switch cover. For surface mounting, use 1-gang Wiremold No. 5748 outlet box.

Cat. No.	Description	Price Each
162025	Small dome lamp station, 1 lamp	**$8.70**

SINGLE AND DOUBLE PLUG, CORD AND BUTTON UNITS

No. 162120



No. 162121

All calling stations requiring cords are to be complete with either the single cord unit consisting of a 5-contact plug, 6 feet of 5-conductor cord and locking button or double cord unit consisting of 5-contact plug, two 6-ft. 5-conductor cords and locking buttons.

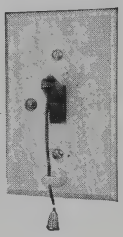
Cat. No.	Description	Shpg. Wt. Lbs.	Price Each
162120	Extra plug, single 6-ft. cord and button unit	2	**$12.00**
162121	Extra plug, double 8-ft. cord and button units	4	**24.00**

FARADAY HOSPITAL SIGNALING SYSTEMS

PRIVATE ROOM CALLING STATION

Pull Cord Type

Schedule "C" Discounts



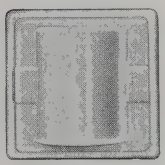
Station includes separate yoke mounted mechanism with momentary buzzer contact and buzzer signal disconnect, single 8-ft. cord and pendant and standard 1-gang plate, finished as directed.

Where one station is desired to serve two beds, use No. 1961, same as above with two 8-ft. cords and pendants.

For flush mounting use standard depth 4-inch square outlet box with 1-gang switch cover. For surface mounting, use 1-gang Wiremold No. 5748 outlet box.

Cat. No.	Description	Price Each
162402	Private room station, single cord	**$8.80**
162402-D	Same as above, double cord	**9.90**

LARGE DOME DOOR LAMP STATION



For use in corridors over door or each room having a calling station and in ceiling at intersection of corridors to serve as sectional pilot lamps. Station consisting of 2-gang plate, lamp receptacle, lamp and hinged translucent dome with snap catch to provide easy access to lamps. Additional lamps, each in individual partitioned compartment, not to exceed 4 under one dome, furnished if required. For flush mounting, use standard depth 4-inch square outlet box with 2-gang switch cover. For surface mounting, use 2-gang Wiremold No. 5748 outlet box.

Cat. No.	Description	Shpg. Wt. Lbs.	Price Each
162999	Large dome lamp station, 1 lamp	2	**$8.70**
162999	Large dome lamp station, 2 lamps	2¼	**13.20**
162999	Large dome lamp station, 3 lamps	2¾	**19.50**
162999	Large dome lamp station, 4 lamps	3	**22.00**

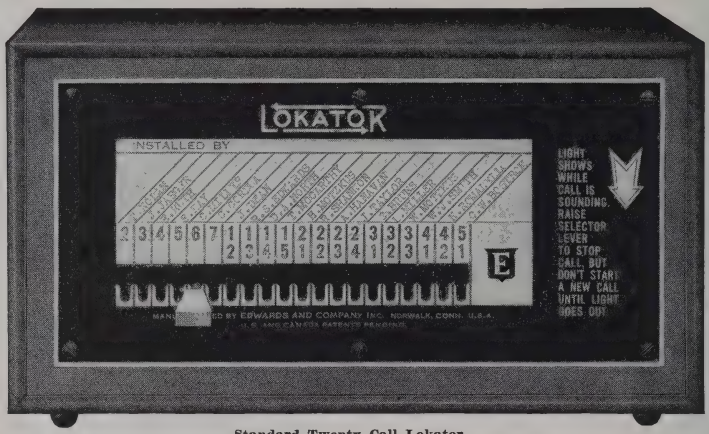
WEATHERPROOF PRIVATE ROOM CALLING STATION

No. 162010

Station to be same as No. 1901 except weatherproof construction and complete with 1-gang plate with hinged cover to protect receptacle when not in use. Station includes one 15-ft. cord and locking button. Where one station is to serve 2 beds use No. 1910.

Cat. No.	Description	Shpg. Wt. Lbs.	Price Each
162010	Weatherproof private room station, single cord	4	**$38.50**
162010-D	Same as above, double cord	6	**55.50**

EDWARDS LOKATOR SYSTEM


LOKATOR
INSTALLED BY
LIGHT SHOWS WHILE CALL IS SOUNDING. RAISE SELECTOR LEVER TO STOP CALL, BUT DON'T START A NEW CALL UNTIL LIGHT GOES OUT
E

Standard Twenty Call Lokator

An efficient, inexpensive, dependable system, which through the medium of various signals located throughout a plant, store or office enables the telephone operator in one operation to quickly locate any person for a telephone call, etc.

The Lokator is operated entirely by low voltage irrespective of the voltage used to operate the signals. Its mechanism is driven by a small but sturdy, noiseless, synchronous motor. There are no intricate springs, cams, gears, etc.

Plainly designed the Lokator presents a neat, dignified, efficient appearance. Its wrinkle grey finish with black panel relieved in dull chromium is practical and ornamental. It is neutral and harmonizes smartly with all interiors and furniture.

Only 5½x9¾x5½ inches, the Lokator may be placed conveniently on the key shelf or on top of any switchboard. It is light and portable (10 lbs.) and may be shifted about.

It is not necessary for the operator to remember code numbers. All names are typed on a strip protected by plastic, directly above the selector lever.

Every unit of the Lokator system is scientifically standardized. Special installations, which require costly items have been avoided. The easiest, least expensive and most convenient method of wiring the devices may be used. Conduit, molding, etc., are not necessary.

POWER UNIT

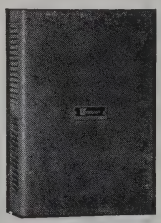
The Power Unit

The power units are standardized to provide the most desirable voltage operation of the system from either A.C. or D.C. lighting circuit.

A simple chart shows the quantity of signals one power unit will operate over a given distance and wire size. The system is unlimited, as additional power units may be inserted into the line where needed.

SOUNDING DEVICES

No. 5024 Lokator Bell



No. 5005 Chime

No. 5031 Light Signal

A wide variety of sounding devices is offered to cover all conditions; a soft musical note, a louder note, a sharp toned bell, a silent light flash, a blasting horn. Each one, however, is designed, rated and standardized for operation together. Again there are no "special" problems.

The most commonly used of the sounding devices for all systems are the chimes. They have a pleasant musical tone to which the ear responds subconsciously, but which is not annoying.

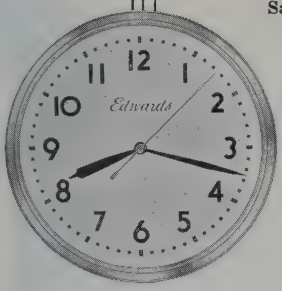
The light signal is ideal for locations where no noise whatsoever is required and then the call is shown by the flashing light.

The specially designed bells give a clear crisp tone and will stand many years of hard service.

Complete information, prices and wiring details will be furnished upon request.

EDWARDS CENTRALLY-CONTROLLED CLOCK SYSTEMS

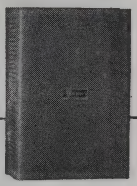
FOR SCHOOLS, COLLEGES, INSTITUTIONS, PUBLIC BUILDINGS AND INDUSTRY



Classroom Clock

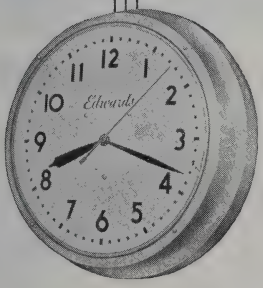
Salient Features of Edwards Timekeeping Systems For Modern Schools

1. Quiet operation.
2. No local master clock is required.
3. Operate direct from the regulated alternating current.
4. Available for 115 volt or 24 volt operation.
5. Each timekeeper equipped with self-starting sealed-in-oil rotor, bi-pole, synchronous motor.
6. No oiling, cleaning, winding or regulating.
7. Available for individual installation or as part of an Edwards centrally controlled system.
8. Clocks furnished with sweep second hands.
9. Clock hands move continuously around the dial.
10. National Board of Fire Underwriters' approved type construction throughout.

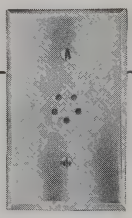


Classroom Chime

Corridor Bell

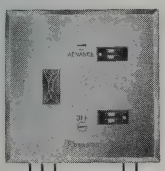


Classroom Clock

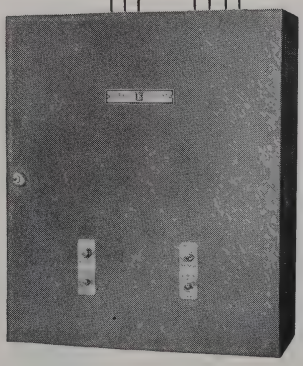


Classroom Buzzer

Typical Edwards (Manual Dual Motor Reset) System for a school with signals and control board.

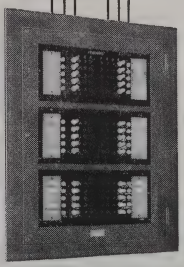


Central Control



Multiple Circuit Program Instrument

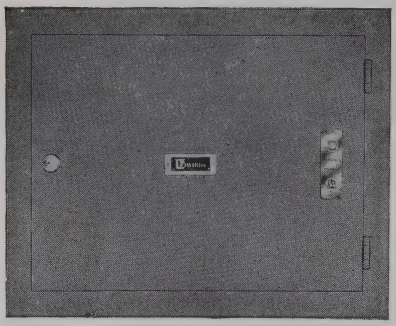
Signal Supply



Signal Control Board

To AC Supply

EDWARDS PROGRAM INSTRUMENTS



No. 1931 Single Circuit Program Instrument for Flush Mounting

Single Circuit Type

The Edwards Single Circuit Program Instrument is designed to control automatically the operation of a group of signals which are to sound simultaneously according to the same program schedule. The instrument is particularly suited for installation in small schools, factories and offices where all persons are dismissed or recalled on a single schedule. It may also be adapted with auxiliary circuits for timing assembly lines and industrial processes.

The program element consists of two perforated metal cylinders mounted vertically and revolving about their respective vertical axes.

One is a minute cylinder which makes one complete revolution every two hours. It is perforated at one minute intervals of each two hour periods of a 24 hour day.

The other is a calender cylinder which advances once every two hours and makes one complete revolution in seven days. It is perforated at two hour intervals for each of the seven days.

By inserting metal pins (provided with each instrument) into proper holes in each of the two cylinders, signals may be operated at one minute intervals. 24 hours per day, seven days per week. By omitting pins in the calendar cylinder, signals may be omitted during any desired two hour period. Provision is made for manual operation and cut-off.

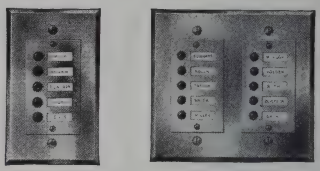
The timing unit is a dual Telechron motored movement geared to the program element. The timing unit also controls the operation of contacts which close every minute for a period of 2 to 6 seconds (adjustable) thus controlling signal duration through a relay having contacts rated at 6 amperes at 115 volts. It is recommended that the No. 1900-A or No. 1902-A Control Units be used to control the timing unit.

Standard units are supplied in flush or surface mounting types for operation on 115 volt, 60 cycle power supply. Single or multiple circuit types are available. Standard finish is wrinkle grey. Prices on application.

Model No.	Type	Shpg. Wt. Lbs.	Overall Dimens., In. High	Wide	Deep
1930	Surface	30	12	16	7
1931	Flush	30	14½	18½	7¼

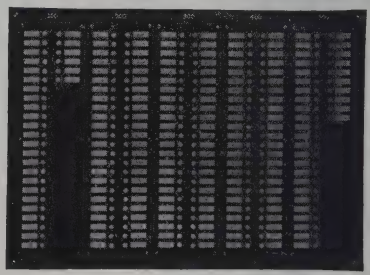
Wallcut dimensions for Flush type: High, 12 inches; wide, 16 inches; deep, 7 inches.

EDWARDS PUSH BUTTON PANELS



No. 107-5 Button

No. 107-10 Button



A compact, sturdy, reasonably priced push button panel designed to meet the requirements of small schools, public buildings, offices, etc., where no "all" or "master" push button is required. This panel is ideal where space is limited and where economy is a factor. For example: 1 to 5 buttons inclusive are mounted on a plate to fit a standard single-gang switch box.

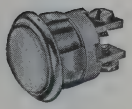
Sizes 6 to 10 buttons inclusive are mounted on a plate to fit a two-gang switch box. 11 to 15 buttons are mounted on a plate to fit a three-gang switch box. Price does not include back boxes. Larger sizes are provided with a steel wall box, for flush mounting. Terminal board is provided suitable for mounting in back box and is wired to panel on sizes 16 buttons and larger. Lower illustration shows a panel which would accommodate 240 buttons and yet the size is only 17½ inches wide by 13 inches high.

Standard is brushed brass. Any solid spray finish no extra charge if specified. For chrome, add 50 per cent.

No.	Description	Price
107	3 to 15 Buttons, per Button	**$4.00**
107	16 Buttons and Up, with Wall Box, per Button	**6.00**

EDWARDS PUSH BUTTONS

LOW-VOLTAGE PUSH BUTTONS



No. 620

No. 620 redesigned and improved for softer push action and longer life. Stronger plastic body holds heavy, rugged terminals. Large push area. Spring clips hold push in hole. White flat, center button. Standard finish nickel. Brushed brass, no extra charge.

No. 59 flat center push, for use in ¾-inch hole. Rim is ⅛-inch wide. Has spring clips for mounting.

No.	Description	Std. Pkg.	Price Each
620	Insulated—fits ⅝-inch hole	12	$0.42
620-L	Insulated—Luminous Center, fits ⅝-inch hole	12	.47
59	Insulated—fits ¾-inch hole	6	1.00

LOW-VOLTAGE PUSH BUTTON

No. 625 Rounded Raised Center Push

Spring clips hold push in hole. Furnished with white round center only. Standard finish for rim is nickel — brushed brass, if specified, at no extra charge.

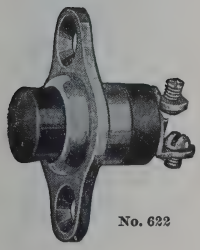
No. 625

No.	Center	Std. Pkg.	Price Each
625	White	6	$0.80

No. 621 PROTRUDING CENTER PUSH

No. 621

Insulated type. Same fine mechanism as No. 625. No. 623 has locknut to hold push firmly on panels and places where there is heavy vibration such as planes, boats, trains, etc. No. 623 is usable only where access to back is possible to set up locknut. Standard finish of rims, nickel. Brushed brass if specified, no extra charge.



No. 622

No.	Fits Hole Inches	Std. Pkg.	Price Each
	With Spring Clips		
621	⅝	6	$0.95
	Forced Fit		
116	½	1	2.25
	With Escutcheon		
622	$\frac{9}{16}$	6	1.30
	With Locknut		
623	⅝	6	1.20

PENDANT PUSH

Improved streamlined pendant push. Smaller in size and easier to grip than old pendant type push. No. 68 Black; No. 69 Mahogany; No. 70 White. Standard package quantity, 3.

Price, Pendant Push.....$0.80

EDWARDS PUSH BUTTONS

HIGH-VOLTAGE PUSH BUTTONS

Underwriters' Approved, 125-250 volts, 1 amp. Strong, sturdy, quick make and break. Fits ⅞-inch hole. Has locknut for fastening to plate or panel.

No.	Description	Price Each
850	As described	$4.40
851	Pendant Push, Bakelite Case	8.00
852	Weatherproof on Switch Plate	10.00

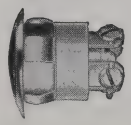
A quick break push with heavy contacts. Standard finish. nickel. Brush brass at no extra charge.

No. 820 No. 821

No.	Voltage	Type	Fits Hole	Std. Pkg.	Wt. Oz.	Price Each
820	125	Standard	¾	1	4	$4.00
821	125	Locknut	⅞	1	4	4.40

MULTIPLE-CONTACT PUSHES

For 50 Volts or Less A.C. or D.C. Operation



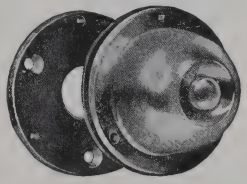
No. 250 Four-point, normally open, fits ¾-inch hole. Depressing plunger closes 4 points together as a common circuit. No. 251 Two-point, closed circuit push, fits ¾-inch hole. No. 255 Three-point "return call" push. Fits ¾-inch hole. Depressing plunger breaks one circuit and makes another. Designed for 3 -wire return call systems and where a number of pushes are installed, one for each bell, with one push to ring all bells.

Special modifications of these pushes for industry component use are available in contract quantity lots.

No.	Description	Fits Hole Inches	Std. Pkg.	Price Each
250	Multiple Circuit Push	¾	1	$2.10
251	Closed Circuit Push	¾	1	3.10
255	"Return Call" Push	¾	1	2.90

WATERTIGHT PUSH

Solid brass push button for use outside of buildings, industrials, for marine work, ice plants, chemical plants, etc. No. 1786-C has a solid brass conduit plate threaded to fit ½-inch conduit. Standard package 1.



No.	Diam. of Base, In.	Diam. of Body, In.	Depth In.	Price Each
1786	$2\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{3}{16}$	$6.00
1786-C	$2\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{5}{16}$	8.50

EDWARDS DESK PUSHES

No. 197-T BAKELITE DESK PUSH

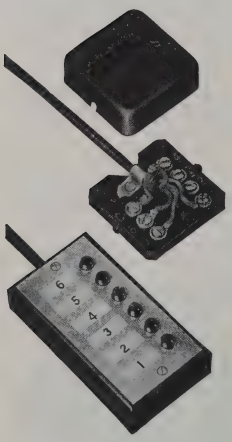
Has phosphor-bronze scraping contacts and is fully insulated. Base is covered with soft sponge rubber.

Has changeable name cards. Standard color, black.

Connector block has bakelite mat and metal cover as well as 6-foot cord.

No. of Buttons	No.	Std. Pkg.	Price Each	No. of Buttons	No.	Std. Pkg.	Price Each
1	197-T	1	$7.80	4	197-T	1	$13.75
2	197-T	1	9.60	6	197-T	1	21.00

ALL-METAL DESK PUSH



For desk top use. Mounting holes also provided for wall mounting, surface or concealed wiring. Heavy gauge, Bonderized steel body. Molded center. Completely insulated. Double row of push buttons for 12-button and larger sizes, single row for smaller sizes.

Plain card furnished for typing names and inserting under transparent celluloid and metal top plate.

Furnished with 6 ft. cord and connector. Standard finish: black with satin nickel top plate. Standard package, 1.

No. of Buttons	No. 192-T	No. 194	No. of Buttons	No. 192-T	No. 194
1	$13.00	$16.50	8	$39.00	$50.00
2	16.50	18.25	10	43.00	.....
4	23.00	26.25	12	56.00	.....
6	30.00	38.00	....	.....	.....
Larger sizes, add per button....		4.50			4.00

EDWARDS DESK PUSHES

No. 146-S PUSH BUTTON BLOCK

With Numbered Pushes

Of molded bakelite with removable weighted base and a composition pad. Flush numbered midget pushes supplied with the block. Can be mounted on the side of a desk with the use of concealed mounting hole provided for that purpose. Furnished with 6 feet of cord wired to push buttons.

Standard finish: Black.

Special engravings, initials or names may be made. Details on application.

No. of Buttons	Std. Pkg.	Price Each	No. of Buttons	Std. Pkg.	Price Each
1	3	$5.25	4	3	$10.35
2	3	6.75	6	3	14.75

EDWARDS FLOOR PUSHES

DIXIE FLOOR TREAD

Recommended as a dining room push for calling servant during meals. Contact easily made by pressure at any point. Rubber-covered base prevents push from sliding. The connectors are firm and reliable. The complete device is designed for quick, easy installation. Cord enters through brass strap which hold it securely. Standard finish, satin brass. Standard package, 3; weight, 1 pound.

Price, No. **290** Dixie Floor Tread.....each **$1.65**

RECEPTAPLUG AND FLOOR PUSH

For non-carpeted floors or rugs. Generally found where No. 290 floor tread is used beneath floor-covering and can be reached to change its position. A compact attachment plug for use with No. 290 floor tread. Included in package is a center pin so the unit may also be used as a floor push.

Receptacle mortises into floor. Rubber-capped plug is inserted flush into receptacle, leaving no "bulge." Recommended installation is combination of No. 235-290. (It may be shipped complete in one package.)

Plug will not fit standard lighting receptacle, thus preventing the possibility of shorting lighting line.

Standard finish, satin brass with brown rubber caps. Standard package 3; weight, 8 ounces.

Price, No. **235** Receptaplug with floor push for non-carpeted floors.....each **$1.65**
Price, Plug only for No. 235.....each **.70**

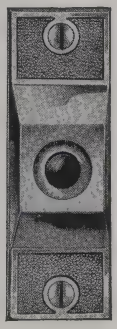
EDWARDS PUSH BUTTONS

TAPESTRY BELL PULL SWITCH

Designed to allow the use of bell ropes or tapestry ribbons rather than push buttons, for bell and annunciator systems in residences and apartments following Old Colonial, Italian or English style of interior. Has positive self-cleaning contacts that assure dependable service. Mounts in the wall usually near the ceiling. Fits any standard single gang switch box or cover. No face plate is furnished, thus permitting the use of any standard single gang toggle switch plate of brass, glass, bakelite, etc., as may be desired. Split ring is fastened to end of operating lever for easy attachment of rope or tapestry ribbon.

Price, No. **280** Pull Cord Switch.....each **$15.00**

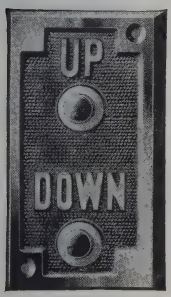
FORGED ENTRANCE PUSH



Solid cast brass push button for apartments, residences, etc. Its sturdy mechanism is securely riveted to the solid brass case making the push all one piece. Easy connections are made direct to two large screws on the back of the push. The mechanism is entirely insulated and can be mounted on metal trim. Oval head brass wood screws are furnished with each push. Standard finish is brush brass; No. 650-G, chrome.

No.	Height In.	Width In.	Depth In.	Std. Pkg.	Price Each
650	3¾	1⅛	⅝	3	**$1.90**
650-G	3¾	1⅛	⅝	3	**2.50**

No. 159 ELEVATOR CALL BUTTONS

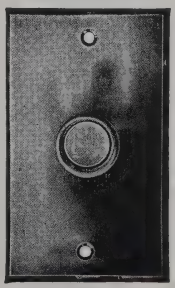


Designed for use with Edwards annunciators or any standard make annunciator.

Case is iron, finished in black, for surface mounting. Other commercial finishes, add 50 per cent.

No.	Description	Wt. Lbs.	Price Each
159	Up & Down	3	**$10.00**
159U	Up only	3	**8.50**
159D	Down only..	3	**8.50**
159X	Plain	3	**8.50**

SWITCH BOX PLATE



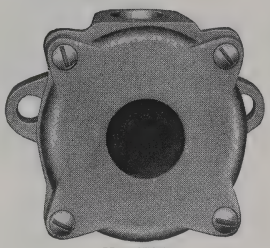
For standard switch box. Drilled for 1, 2 or 3 buttons ⅝-inch. Screw hole centers 3⅓ inches. Machine screws furnished. Plate does not include push buttons.

No.	For No. of Buttons	Std. Pkg.	Price Each
147	1	1	**$0.50**
147	2	1	**.75**
147	3	1	**1.00**

EDWARDS PUSH BUTTONS

WEATHERPROOF PUSH BUTTON

FOR HIGH VOLTAGE—WATERPROOF



No. 1785

Surface type. For 125 volts or less. Cast aluminum housing with hole drilled for surface mounting. Finish, light grey. Special construction for exterior weatherproof installation. Rubber gaskets seal box, case and top ring. Mechanism compartment is covered with a leather diaphragm to insure complete protection from the elements. Drilled and tapped for ½-inch conduit, (¾-inch if so specified). Center push is not exposed so there is no danger of moisture affecting operation of plunger. Dimensions: approximately 2¾ x 2⅜ in.

Price, No. **1785** Surface Type, Waterproof Push .....each **$10.00**

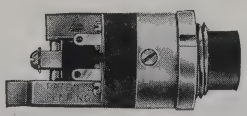
FLUSH TYPE WEATHERPROOF PUSH

No. 852

Fits any standard box at least 2⅜ inches deep. For 250 volts or less. Same mechanism as No. 850, but special construction for exterior weatherproof installation. A special bronze shell forms a watertight compartment for the plunger of the standard push. This compartment is covered with a leather diaphragm over which is placed a second bronze plunger that protrudes through the sub-plate to which the unit is securely fastened. Wire leads are brought through a tight-fitting washer and the complete unit is encased in a threaded bakelite casing so that moisture cannot reach the mechanism from any point. The outer plate is secured to the sub-plate with two screws. Rubber gaskets also furnished for use between plate and wall. Standard finish: bronze.

Price, No. **852** Flush Type Weatherproof Push .....each **$10.00**

PUSHES FOR PROGRAM BELL PANELS

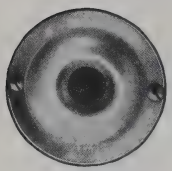


Replaces old fashioned strap key. Contacts are phosphor bronze, self cleaning and of a sufficient size to carry an unusually heavy current demand on low voltage work. Rugged construction will withstand hard service. Centers can be engraved with numbers or letters. Fits ⅞-inch hole.

Cat. No.	Description	Wt. Lbs. Std. Pkg.	Price Each
111	Break and Make Contact	¼	**$6.50**
112	Two sets of Make Contacts for open circuit use	¼	**6.50**
113	Two sets for Break Contacts for closed circuit use	¼	**6.50**

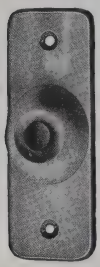
EDWARDS STAMPED SURFACE PUSHES

SATIN BRASS FINISH

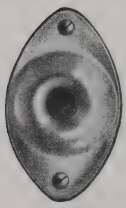


No. 600 (2 5/16" Dia.)
No. 603 (1¾" Dia.)

No. 602



No. 605

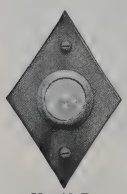


No. 606

No. 609

No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
600	2 5/16" Dia. Round Push	12	1	$0.25
602	2"x4 1/16" 2 Name Card Holder	6	¾	.50
603	1¾" Dia. Small Round Push	12	¾	.25
605	1¼"x3½" Narrow Rectangular Type	12	1	.45
606	1 1/16"x2⅜" Small Elliptical Type	12	¾	.33
607	2 1/16"x2⅝" Rectangular Card Holder	12	1	.40
608	2 1/16"x4½" Wide Rectangular Type	12	1½	.55
609	2 1/16"x4½" Large Oval Type	12	1½	.55

PUSH BUTTON ESCUTCHEON PLATES



No. 62-D

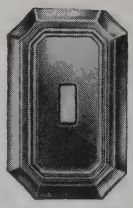
No. 62

These plates present fine appearance when used with flat center or protruding push button. Price of plate does not include push button. Standard finish: nickel or brush brass as specified. For ⅝-inch pushes only.

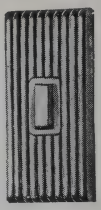
No.	Width In.	Height In.	Std. Pkg.	Price Each
62	1¼	2	6	$0.50
62-D	1½	2¼	6	.50

EDWARDS CAST ENTRANCE PUSHES

Solid Brass — Screwless



No. 641



No. 640

No. 642

No.	Type	Escutcheon Plate Wdth.	Hght.	Thick.	Std. Pkg.	Price Each
640	Rectangular	1	2¼	⅝	3	$1.75
641	Octagonal	1 5/16	2½	⅝	3	1.75
642	Oval	1 11/16	2½	⅝	3	1.75

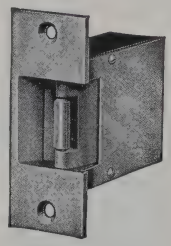
EDWARDS DOOR OPENERS

These door openers may be used on either right or left hand doors. Regular voltages 4½ to 6 volts D.C. Nos. 152 and 154 can be furnished for special voltages up to 115 volts. Prices on request.

No. 9 ECONOMY—MORTISE TYPE

Economy mortise type; solid brass nose and face plate. Made of heavy pressed steel, heavily brass plated. Used extensively for apartments. Fits the same size mortise as same shape openers of other manufacturers. Height, 3⅝ inches; depth, 2⅛ inches; thickness, 1 inch; nosing opening, 1 3/16 inches; face plate, 5⅞ x 1¼ inches.

No.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
9	6	5	$4.00



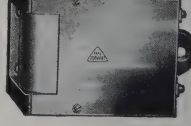
No. 154 MORTISE TYPE

Roller nose; for heavy doors; requires smaller mortise than Economy. Body height, 2 inches; depth, 2⅞ inches; width, 1¼ inches; nosing opening, 1¼ inches; face plate, 1¼ x 3⅜ inches.

No.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
154	1	¾	$9.00

No. 152 RIM TYPE

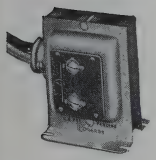
Solid nose; for surface locks, thin doors, etc. Made of cast iron. Nose opening, 1¼ inches. Brass front.



No.	Dim., In. H.	D.	T.	Std. Pkg.	Price Each
152	2	3⅛	1⅛	1	$7.00

EDWARDS DOORBELL, CHIME AND SIGNALING TRANSFORMERS

EASI-MOUNT TRANSFORMERS



Underwriters' Listed for mounting on any outlet box or cabinet with ½-inch knockouts or alone on any surface without box. This ingenious, universal design replaces old style Chime, Doorbell and Tri-Volt transformers. No plates are needed for any type of mounting.

Primary—115 Volts, 50-60 Cycles

Cat. No.	Description	Secondary Volts	Secondary Watts	Std. Pkg.	Pkg. Wt.	Price Each
*890	Doorbell Transformer	10	5	6	6	$1.72
*890-Y	Doorbell Transformer	10	5	6	6	2.80
*892	Chime Transformer	14	10	3	3	3.20
894	Chime Transformer	14	10	3	3	2.20
896	Tri-Volt 5-Watt Trans...	6–12–18	5	6	6	2.50

*Underwriters Listed.

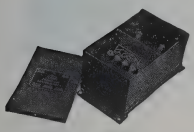
230-volt and 25-cycle transformers available.

25-WATT TRI-VOLT TRANSFORMER

The No. 872 25-watt Tri-Volt transformer provides a greater selection of secondary voltages, although it does not have the Easi-Mount feature. It is primarily adapted to situations where an unusually long wire run exists. Special primaries, secondaries, and 25-cycle transformer can be supplied. Details on request.

Cat. No.	Primary Volts	Primary Cycles	Secondary Volts	Secondary Watts	Approx. Wt. Lbs.	Price Each
872	115	50-60	8-16-24	25	2¼	$5.30

SIGNALING TRANSFORMERS



Completely enclosed in sturdy, stamped metal housings and are designed to form their own barriers between high and low voltages. These transformers adequately meet all safety and Underwriters' codes and have large conveniently placed binding posts on both primary and secondary, which eliminates splicing, soldering and taping. Wide secondary range of 4-8-12-16-20-24 volts are labeled for simplified installation. Knockouts into both compartments permit entrance with BX, conduit, or open wiring. Nos. 88-50 and 88-100 are Underwriters' Listed.

Cat. No.	*Watts	Overall Dimens. Ht.	Wdth.	Ht.	Approx. Wt. Lbs.	Price Each
88-50	50	4¼	3⅜	7⅞	5⅛	$9.80
88-100	100	4 7/16	4⅝	8⅝	8¾	15.70
88-250	250	6	5⅛	9½	16⅛	40.40
88-500	500	6½	6½	12⅛	34⅛	62.70
7194	850	6½	7½	14½	42	68.00
7195	1000	6½	9¾	14½	58¼	88.00

*Ratings apply to 24 volt tap. Wattage reduces proportionately for lower taps.

Example: No. 88-50 delivers 50 watts from 24-volt tap, but only 25 watts from 12-volt tap. 115 volt primaries may be used on up to 130 volts. Special primary voltages up to 230 volts, special primary voltages from 230 to 400 volts, special secondary voltages and 25 cycle tansformers. Details on application.

FARADAY TRANSFORMERS

FARADAY SIGNALING TRANSFORMERS

For Heavy Duty

For operation on light and power circuits. Highest quality — totally enclosed with barrier between high and low voltages. Knockouts are provided for entrance into both compartments with conduit BX, Romex, or open wiring in accordance with local codes. Finish, black enamel.

The volt-amps. (watts) ratings of signaling transformers are based on 24 volt tap. The Volt-amp. capacity is proportionately less on the lower voltage taps. For example, the No. 506 is rated at 50 va. from the 24-volt tap, but is only 25 va. from the 12-volt tap.

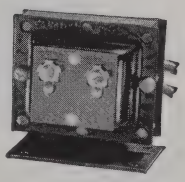
Be sure to select transformers of adequate va. capacity. Do not try to use doorbell transformers for heavy work.

Primary Voltage—115 volts, 50-60 cycle.
Secondary Voltages—4-8-12-16-20-24.
Standard package 1.

Cat. No.	Volt-Amp. Watts	Size, In. H.	W.	L.	Schedule	Price Each 115 V.	230 V.	460 V.
506	50	4¼	3⅝	7⅞	S	$9.80	$11.75	$15.70
1006	100	4 7/16	4⅝	8⅝	S	15.70	18.80	25.10
2506	250	6	5⅛	9½	S	40.40	48.55	64.70
5006	500	6½	6½	12⅛	S	62.70	75.20	100.35
7506	750	6½	7½	14½	C	68.20	81.85	109.10
10006	1000	6½	9¾	14½	C	88.00	105.60	140.80

For 25 cycle add to list 75 per cent.

FARADAY DOOR BELL TRANSFORMERS



Top quality units, designed for easy mounting and built to give reliable service. For operation on 110-125 volt AC light and power circuits. Primary voltage 110 volts, 60 cycles. For surface mounting.

Cat. No.	Secondary Voltage	Volt-Amps. (Watts)	Std. Pkg.	Pkg. Wt.	List Each 115V.	230V.
T-160	8	5	6	5	$1.72	$2.52

Schedule "S" Discounts

POWACALL TRANSFORMER

From the Flushcall Line

A neat, convenient transformer for homes, apartments and office use. It fits into standard switch boxes along with the Flushcall, Ringacall, Buzzacall and other Flushcall units. Although the Powacall takes only one-gang space, one of the other units or an outlet must be placed on either side of it. Underwriters' listed.

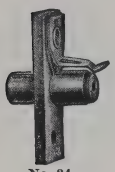
Cat. No.	Primary Voltage	Secondary Voltage	List Each
666	115, 60 cy.	10	$3.10

Standard package, 6.

Schedule "S" Discounts

EDWARDS BURGLAR ALARM DEVICES

BURGLAR ALARM SPRINGS



No. 34
Door

No. 236
Trip

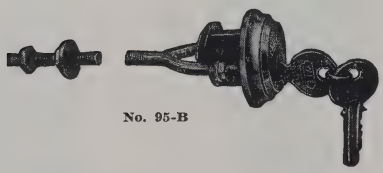
Open Circuit Springs

No.	Description	Size Plate	Std. Pkg.	Price Each
34	Door	2 x ⅝	6	$0.60
38	Make and Break	2 x ⅝	6	.60
236	Door Trip		3	1.50

Closed Circuit Springs

39	Door	2 x ⅝	6	.60

LOCK SWITCHES

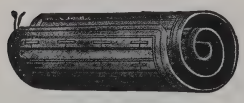


No. 95-B

Mounted outside door to allow person with key to enter without sounding alarm. Standard finish, polished brass.

No.	Description	Price Each
95	With Screw Mounting Plate, No Rod	$10.80
95-A	Two Locks	21.50
95-B	Complete with Rod	13.50
	Additional pair of keys	1.50

ELECTRIC MATTING



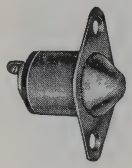
For use in open-circuit systems to protect entrances, stairways, etc., that are otherwise difficult to protect. Can be placed under carpets or other places where foot pressure will close contact. Full length roll can easily be cut into any lengths desired on the job, but the width cannot be changed.

Standard package, 1 full roll, 10 feet long, 2 feet wide.

Price, No. **36** Electric Matting, per sq. ft.....**$4.50**

EDWARDS BURGLAR ALARM DEVICES

ALL-PURPOSE CONTACTOR



This ingenious device has long been needed to replace the confusing collection of old-fashioned "springs." It is not cheaply made but instead is designed for hard service with pure phosphor-bronze scraping contacts, genuine Vulcoid insulation and heavy brass casing and moving parts.

Unlike all old-fashioned springs, it is scientifically designed so that pressure from any direction will depress the nosing. The radial action of the nosing requires but easy pressure. The contactor may be installed in any position.

The contactor fits a ¾-inch hole. Overall is 1⅝ inches high, 1⅝ inches deep, including flanges. It need not be mortised except in remote instances where the door or window is a very tight fit. Flat head brass screws are supplied. While it may be used the same as old window and door springs, its universal action makes it more flexible.

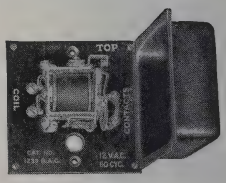
No.	Description	Price Each
44	Pressure on nosing opens circuit	$1.00
45	Pressure on nosing closes circuit	1.00
46	Momentary Contact. Pressure on nosing makes — then breaks circuit and repeats operation in returning to normal	1.00

Standard package, 6.

No. 1239 BURGLAR ALARM RELAYS

Enclosed type. Small, compact, reliable. Contact capacity varies from 1 to 6 amperes, according to voltage.

Standard package 1.



Burglar Alarm Relay Open Circuit

No.	12-Volt 60 Cyc.	24V. 60 Cyc.	115-Volt 60 Cyc.	Other Volt. up to 48V. DC or 60 Cyc.
1239-F	$10.00	$10.00	$11.00	$13.00

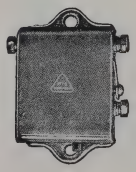
Burglar Alarm Relay Closed Circuit

1239-B	10.00	10.00	11.00	13.00

Burglar Alarm Relay Front and Back Contacts

1239-FB	12.50	12.50	13.50	16.00

CONSTANT RINGING DROP

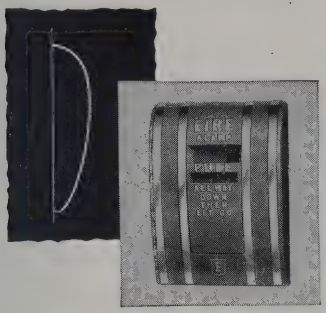


To cause any alarm to ring continuously until drop is reset. 6-8 volts D.C., 8-12 volts A.C.

No. 26 cuts own magnet out of circuit, reducing battery drain.

Price, No. **26**.....each **$5.30**

EDWARDS FIRE ALARM STATION



This new station combines lustrous red enamel with polished metal bands to give a streamlined appearance which will blend with the most modern structures. A pull and release of the handle sets the alarm in motion. No parts extend from the box to cause accidental actuation, interference with code while alarm is sounding, or spoil the sleek appearance. Complete testing instructions are etched on transparent plastic cover over mechanism. Front-connected terminal blocks are readily and easily accessible. Elongated mounting holes permit alignment after station is on the wall.

Break-glass type stations have an easily replaceable glass rod across the handle assuring "break-glass" security against tampering yet has the same single-action operation.

Pre-signal stations have, in addition to all the features of the standard stations, a tumbler type lock on the right side of the station. A pre-signal alarm sounds at pre-determined place — general alarm is sounded by turning key in lock and pulling lever at any station.

No.	Description	Price Each
1250	Pull Lever Station	**$60.00**
1251	Pull Lever, Break-glass Station	**72.00**
1252	Pull Lever, Pre-signal Station	**72.00**
1253	Pull Lever, Pre-signal, break-glass Station	**80.00**

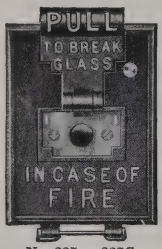
Note: When ordering be sure to specify P.P. 24900 Wall Box for flush mounting or P.P. 24901 Back Box for surface mounting.

Shunt Non-Interfering Stations, Shunt Type Stations with McCullough Feature, Coded Stations with Annunciator Contact Open Circuit, etc., information and prices on request.

FOR ASSISTANCE ON YOUR ELECTRICAL REQUIREMENTS CONTACT OUR NEAREST OFFICE

EDWARDS FIRE ALARM SYSTEMS

FIRE AND EMERGENCY STATIONS

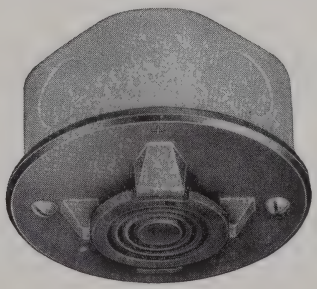


No. 227 or 227C

These stations replace the unsightliness and nuisance of hammers and chains. Underwriters' approved. First pull lever breaks glass, allowing plunger to come into alarm position. Lever falls down, displaying arrow signal and words "Replace Glass." Bumping lever will not cause accidental alarm. Emergency types ideal for swimming pools, electric stations, etc. Specify whether Fire station or Emergency station desired. 60-125 volts. Test key allows hinged front to open without breaking glass. Size $3\frac{1}{16}$x$5\frac{1}{16}$ inches fits any standard switch box. Red finish, aluminum letters.

No.	Description	Price Each
227	Flush-Open Circuit	**$11.00**
227C	Flush-Closed Circuit	**14.00**
228	Surface-Open Circuit	**14.00**
228C	Surface-Closed Circuit	**16.50**
***77**	Wood Back, (no test, low voltage, 3¼-inch diameter) with chain	**4.10**

AUTOMATIC FIRE ALARM STATIONS



Where it is desired to have systems operate in event of temperature rise instead of being manually operated, automatic fire alarm stations may be employed instead of the break-glass non-code stations and may be used with any of the following systems: VOA, VOD, SSMR, SSAMR, CCVA.

These stations are approved by the Underwriters' Laboratories. They are designed for attachment as a cover plate to a standard outlet box with mounting holes spaced 2¾ inches between centers. May be used as a part of a closed circuit supervised system or as part of a simple open circuit system as desired. Available in two types, No. 230 rated at 150° for normal temperatures and No. 231 rated at 212° for use near furnace or heater or other locations where high temperatures prevail.

Each automatic station will protect an area of 156 square feet of ceiling area. Stations should not be placed more than 6 feet from walls nor more than 12½ feet apart. In ordering give complete details regarding location of each station.

No.	Description	Price Each
230	Rated at 150 degrees	**$7.00**
231	Rated at 212 degrees	**7.00**
241	Rated at 165 degrees	**7.00**
242	Rated at 212 degrees	**7.00**

FARADAY FIRE ALARM BOXES

Closed Circuit—N. E. C. Standard

POSITIVE NON-INTERFERING PULL-LEVER, AND BREAK-GLASS CODE-RINGING TYPE

Non - Interfering Fire Alarm Boxes, while retaining all the superior features of Plain Pull-Lever Code-Ringing Type Boxes, have in addition self-restoring and non-interfering mechanisms, and are so designed that should more than one box be pulled at about the same time, no interfering or jumbling of the alarm will result as one box only will transmit its signal and all the others will be automatically locked out.

Non-Interfering Pull-Lever Code-Ringing

Cat. No.	Description	List Each
3122	For Surface-mounting with Outlet-Box-Back for Conduit	.....
3123	For Semi-Flush mounting with Outlet-Box-Back for Conduit	.....

Non-Interfering Break-Glass Pull-Lever Code-Ringing

3132	For Surface-mounting with Outlet-Box-Back for Conduit	.....
3133	For Semi-Flush Mounting with Outlet-Box-Back for Conduit	.....

Price and detailed information on request.

PLAIN PULL-LEVER AND BREAK-GLASS PULL-LEVER CODE-RINGING TYPE

Plain type boxes are designed to give any signal required for standard fire alarm work and automatically transmit the signal four times. After lever has once been pulled down and released, the signal cannot be disarranged by again operating the lever.

Plain Type Boxes should only be used where the chances of more than one box being pulled at the same time are comparatively remote. Where many boxes are installed and there is likely to be more than one pulled, we recommend the Positive Non-Interfering Type.

Plain Pull-Lever Code-Ringing

Cat. No.	Description	List Each
2022	For Surface-mounting with Outlet-Box-Back for Conduit	.....
2023	For Semi-Flush-mounting with Outlet-Box-Back for Conduit	.....

Plain Break-Glass Pull-Lever Code-Ringing

2032	For Surface-mounting with Outlet-Box-Back for Conduit	.....
2033	For Semi-Flush-mounting with Outlet-Box-Back for Conduit	.....

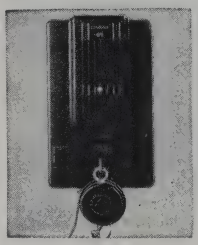
Price and detailed information on request.

In ordering the above boxes, be sure to specify size of conduit, also the code desired to be transmitted by box. Weatherproof types available.

EDWARDS INTERCOMMUNICATING TELEPHONE SYSTEMS

PARTY LINE SYSTEM No. 7

Common Ringing—Common Talking

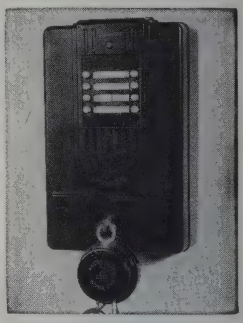


Provides for one conversation at a time. Pressing the button of any telephone rings all stations at the same time, necessitating a coded system of ringing. All metal case, black finish. Furnished with steel back box.

No.	Type	Price
4060	Surface Wall	$23.50
4061	Flush Wall	23.50
4063	Desk Telephone	55.00
4065	Handset	40.00

LIMITED SELECTOR SYSTEM No. 4

Selective Ringing—Common Talking



Provides intercommunication for as many as 13 stations. Only one conversation at a time. Pressing button opposite the name of station desired rings that station only. Satisfactory for small offices, residences, etc., where limited conservation will not be an inconvenience.

System No. 4 No. of Buttons	No. 4070 Surface Wall Type	No. 4071 Flush Wall Type	No. 4072 Cradle Type	No. 4075 Handset and Button Pad
4	$30.00	$30.00	$60.00	$46.00
8	40.00	45.00	65.00	55.00
12	46.00	55.00	75.00	64.00

All metal case, black finish.

UNLIMITED SWITCHBOARD SYSTEM No. 50

Provides private intercommunication through a lamp switchboard to an unlimited number of outlying stations. Ideal for large apartments, industrial plants, large schools, etc.

Lamp signal switchboards in three modern designs—flush wall, pedestal, and desk types meet all requirements. Outlying station telephones in surface wall, flush wall, cradle desk, suspended handset wall, and suspended handset desk types are available.

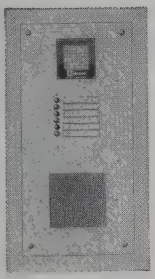
Price of System No. 50 on application.

EDWARDS APARTMENT HOUSE TELEPHONES

This new modernized line of Apartment House Telephones permits neat, attractive, efficient installations. Mechanically, the system is perfect — no "tincanny" nor weak transmissions. The finish of the face plates is satin brass.

There is an Edwards Telephone System for every apartment requirement whether simple or complex — irrespective of the number of entrances. Details supplied on receipt of complete specifications — or the engineering department of this company will furnish a general specification for the particular requirements.

Vestibule Telephones

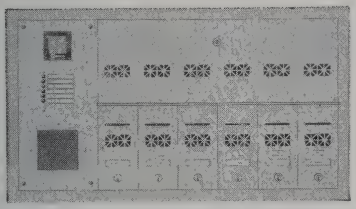


No. 2200 Cordless Loud Speaking Vestibule Telephone

These new units are a complete innovation from every standpoint and have many advantages in appearance, operation and installation.

The name directions are on the sub-plate and names are clearly visible through glass windows — but are not accessible to the tenants. The names are protected from dust and dirt and can be kept sightly at all times.

The apartment number designation is furnished as ordered with each unit and remains permanently in its correct position. The cordless units are of new design using radio type cone speakers. The voice transmission is clear and full — not "tincanny" as most units were in the past.

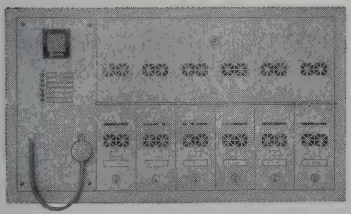


No. 2601 Cordless Loud Speaking Vestibule Unit with Mail Boxes

The wall box has ample room for convenient wiring, with ¾" knockouts on all sides. Wall box must be shipped with mechanism.

The sub-plate is strongly cabled and laced to the back of the terminal strip with soldered connections. The sub-plate can hang by its cable while easy front connections are made to complete the job. The sub-plate is then attached to the wall box and the finished plate mounted overall.

The face plate is easily removable whenever the superintendent wishes to change a tenant's name.



No. 2611 Receiver and Cord Type Vestibule Unit with Mail Boxes

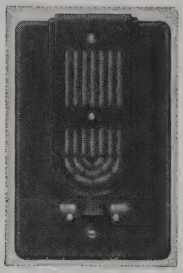
Where lobby plans permit, the Vestibule Unit should be installed alone. The appearance is better, the cost of installation lower and there is less chance for confliction in jurisdiction of the various trades. However, the Vestibule Unit is furnished in the same frame as the Mail Boxes where this type installation is feasible. Also available with armored cord and watch case receiver instead of loud speaking.

For janitors' instruments, trade entrance units, etc. — details on application.

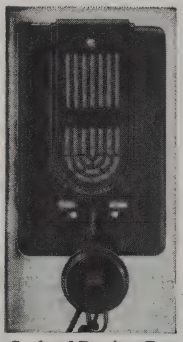
EDWARDS APARTMENT HOUSE TELEPHONES

This new modernized line of Apartment House Telephones permits a neat, attractive, efficient installation. Mechanically, the telephones are perfect — neither "tincanny" nor weak. Standard finish is black or ivory as specified. Special finish on application.

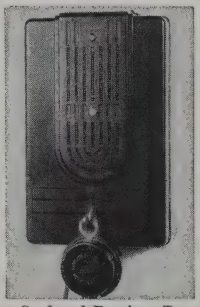
There is an Edwards Telephone System for every apartment requirement — large or small — irrespective of the number of entrances, etc. Details supplied upon receipt of complete specifications. Suite telephones are available for all construction problems: Flush — Thin Wall, for use in newer type construction where wall depth is insufficient to accommodate the usual wall box, and Surface Type.



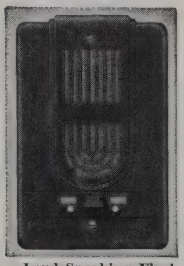
Loud Speaking Type Flush Suite Phone



Cord and Receiver Type Flush Suite Phone



Cord and Receiver Type Surface Suite Phone



Loud Speaking Flush Suite Phone

Suite Telephones

This new telephone combines decorative appearance with highly improved mechanical construction and transmission. Both cord and receiver and receiverless types have an attractive front with voice transmissions with natural depth and quality — free from the usual "tincanny" reception. Receiverless types eliminate the annoyance of broken cords and pilfered receivers.

On the receiverless type the old "Press-to-Talk" push has been replaced with an easy action plastic member which is simply held down by the weight of a finger while using the telephone. Its purpose is to supply operating current to the telephone. It is not necessary to depress while talking and release while listening.

The mechanical construction of this telephone sets a new high for excellence. All springs are of pure phosphor bronze with sturdy wiping contact and the transmitter and receiver units follow advanced telephone engineering practice.

The decorative face plate carries no parts whatsoever and is supplied in a variety of finishes. Damaged or badly marred plates can always be replaced at low cost.

Name card designations for push buttons are located on the unit itself but are visible through windows in the face plate.

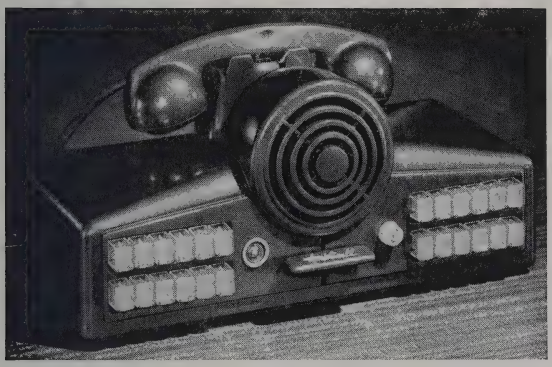
The complete telephone mechanism is assembled on a sturdy plastic base. Large, clearly marked binding posts are easily accessible for front connection.

The complete unit is easily installed and plumbed in the wall with plenty of room for wiring. Face plates need not be installed until painting and decorating is finished and suite is ready for occupancy.

Wall boxes for both flush and thin wall telephones have ample knockouts and wiring space. Designed for use with standard box cleats (GE SP6605). Hangers not included in price of phone. Wall boxes can be shipped to the job for roughing in before shipment of operating material is required.

ELECTRONIC AMPLICALL INTERCOMMUNICATION ...America's Finest

BUSINESS COMMUNICATION SYSTEMS



The unlimited flexibility of the new Amplicall system creates a real desire for the possession of this outstanding communication equipment. Systems available range from the de luxe combination of multiple masters and remotes to the economical single master and remote series.

All Master stations with the exception of the 2105 and 2102 incorporate the distinctively advanced styling of the new two-toned plastic cabinet as shown. Striking new beauty coupled with functional sturdiness assures life time service.

Professional type handsets are available as optional equipment on all master stations (except the 2300 series) to provide absolute privacy at Master station locations, with ample volume and natural speech reproduction.

Plug-in type masters permit the quick and easy transfer or exchange of Master Stations. All junction boxes are a combination receptacle and junction box and are designed for use with standard electrical conduit fittings or for surface mounting.

Engineered to Your Requirements

CONTINUOUS TROUBLE FREE SERVICE . . . .

The Amplicall line of intercommunication consists of the 3400, 2300 and 2100 series — each designed for specific applications. The flexibility of the Amplicall line makes it possible to use equipment designed specifically to a particular application.

3400 and 3400P Series

The Deluxe 3400 series Amplicall is recommended where 115 volt AC line is available and it is desired to have such deluxe features as a busy signal and flexibility of conversion to any type of service, including any desired combination of Masters and Remotes on the same system.

Two types of models are available. The 3400P series is specifically for all master private systems that also allows conversations between masters equipped with Handset without operating any control. The 3400 series can be installed as a single master with remotes, as an all master non-private system, as an all master private system and in any desired combination of masters and remotes. Masters are available either with or without Handset. Masters are available for 6, 12 or 24 station circuits.

2300 Series

Featured in the 2300 Series Amplicall system is a high powered paging and intercommunication system consisting of one Master Control Station as illustrated above, a separate 20 watt Amplifier and up to 24 Remote Stations. All remote stations can be called individually or simultaneously at the discretion of the operater.

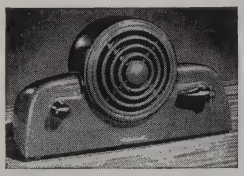
Calls can originate from any remote to the Master Station. Three Master stations are available, having respectively, 6, 12 or 24 Station buttons. A choice of several remote stations are available which include the Type 2300, 2664C and 2100S as illustrated below.

LIFELIKE VOICE REPRODUCTION . . . . . .

2100 Series

The 2100 Series Amplicall is designed for operation on either AC or DC 117 volt supply. It does not include busy signal and is available in two models, equipped with 6 or 12 station circuits, mounted in the deluxe cabinet illustrated above plus a 2105 master and 2102 two station system mounted in the remote type cabinet as illustrated below.

The 2100 Series can be installed as a single master with remotes, as an all master non-private system or as an all master private system. The 6 and 12 button masters are available either with or without Handset. Add the letter "H" to model number. Example: 2106H. Handsets are not available on the 2105 and 2102 equipments described below.



For installations requiring only up to 5 remote stations, operated from a single Master station, the 2105 Master unit is recommended. Remote stations 2100S as illustrated here can be used to provide speech origination to the 2105 Master Unit. An ALL CALL position is incorporated in the Master Unit to provide simultaneous paging to all remotes.

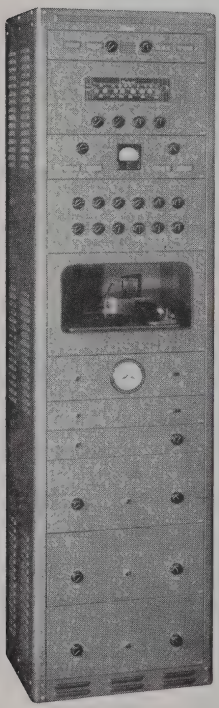
The 2102 System is designed specifically for those applications where only two stations are required on a system. A combination of one Master station and one Type 2100S remote station provides fast-economical communication between two locations. Remote station can originate a call to the Master or can answer a call from the Master without operating any lever.

Write for Literature and Prices

Rauland

INDUSTRIAL SOUND SYSTEMS

High Power Paging for Factories, Stores, Offices and Institutions



Ideal For:
PUBLIC ADDRESS, PAGING
AND
SOUND DISTRIBUTION

Rauland also offers a complete line of microphone and speaker accessories adaptable to existing sound installations. The complete Rauland catalog of sound systems and accessories will be gladly sent on request.

Complete Program Facilities:

MICROPHONE

RADIO

PHONOGRAPH

The constantly increasing utility of centralized radio and sound systems in all types of institutions results in a demand for a system so flexible in design that it shall be capable of additions for expansion and improvement at any future date. Rauland Centralized Rack and Panel Equipment is the obvious answer to such a problem.

The sectionalized construction of Rauland Sound Systems utilizing standard panel construction results in prices comparable with production equipment, but provides the flexibility equivalent to singly fabricated custom built systems.

A wide variety of equipment is available to fit any particular need ranging from the 2525 Wall Mounting Paging System of 25 watts output, to the large RP-100 Centralized Rack and Panel Equipment illustrated at the left.

Rauland will build "tailored to fit" sound equipment to meet your special requirement. Write for full details and prices.

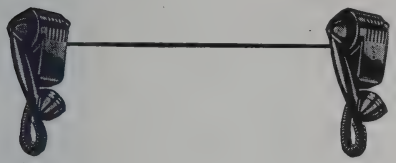
Fixed and Portable Systems

Portable and fixed sound systems are also available ranging in output power of from 14 to 120 watts. All Rauland sound systems include perfectly matched components from microphone to speakers. A wide variety of microphones, reproducers and accessories assures a completely matched system for a specific installation. Your inquiry will be promptly handled by competent engineers.

Designed and Built by Rauland

WHEELER SELF-POWERED TELEPHONES

THE PAIR PHONE SYSTEM

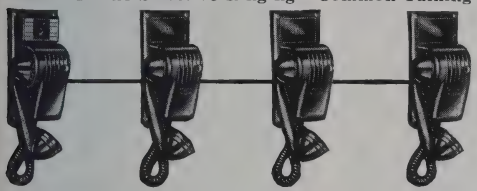


Capacity: 2 Telephone Instruments (See note under "Installation").
Operation: Remove handset from hanger—depress gong ringing lever — release. The gong rings at the other pair phone station. By means of the number of operations of the gong lever when calling, a code signal can be established to call specific individuals to the telephone.
Instruments: 2 Wheeler No. SPS-205 self-powered telephones. (See note under "Installation").
Applications: Industrial plants, refineries, chemical processing plants, offices, etc. Between key personnel where normal traffic puts undue burden on present telephone facilities. Also where full privacy is a requisite.
Installation: The 2 instruments need only a 2-wire connecting circuit. Instruments may be wall mounted for exposed or concealed wiring or attached to leg post or panel of desk, cabinet, etc. Note: Under conditions of relatively short line runs (500 ft.) 3 instruments may be connected together on a 2-wire bridging, common (code) ringing, common talking circuit.

Price, System-PT—2 Instruments **$73.15**
3 Instruments **109.72**

THE MASTER PHONE SYSTEM

Master Phone Selective Ringing—Common Talking



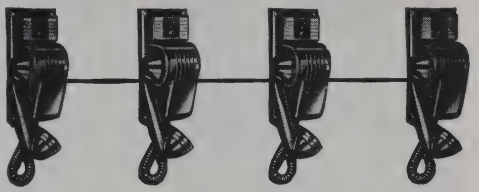
Capacity: 1 Master Phone Station; up to 11 outlying sub-stations.
Operation: Selective Ringing — Common Talking. The master phone, by means of the multi-position radial switch, can select and signal (as described under system PT) any one, or in succession, all of the 11 sub-stations on the system. Any of the outlying sub-stations can signal the master phone. If a party at one outlying station wishes to be connected to another outlying station, it is only necessary to call in to the master station which, in turn, can call the other station. Up to 6 stations can be satisfactorily operated on a common talking "conference" connection basis.
Instruments: 1 Wheeler SPS-205-MI self-powered master phone station. Up to 11 Wheeler SPS-205-SI self-powered telephone sub-stations.
Applications: Industrial plants, refineries, etc.
Installation: Only 3 common wires connecting all stations and 1 individual wire from each sub-station to the master station are required. Instruments may be wall mounted for exposed or concealed wiring.

Price, System-MT—Master Phone $61.60
Sub-Station 52.25

WHEELER SELF-POWERED TELEPHONES

THE MULTI-SELECTIVE RINGING SYSTEM

Full Selective Ringing—Common Talking



Capacity: Up to 12 Master Phone Stations.
Operation: Selective Ringing — Common Talkng. All master phone stations may selectively ring **any one** or **all** other master phone stations on the system in the manner outlined under Master Phone Operation, System-MT. This system provides maximum flexibility, since all stations are similarly equipped with full signalling and intercommunicating facilities.
Instruments: Up to 12 Wheeler No. SPS-205-MI self-powered telephones.
Applications: Industrial plants, refineries, chemical processing plants, offices, etc. Applications where normal traffic puts an undue burden on present telephone facilities.
Installation: Only 2 common wires and one individual wire for **each** station, between **all** stations is required. Instruments may be wall mounted for exposed or concealed wiring or attached to leg post or panel of desk, cabinet, etc.

On both systems MT and MST, complete wiring terminal facilities are provided on the sub-base of the telephone in the space directly above the ringer housing.

Price, System-MST, each Instrument.....**$61.60**

SPECIAL FEATURES

Visual Signal Type

To meet the requirements of quiet locations where the standard bell signal cannot be tolerated, The Type VS (Visual Signal) has been devised. This consists of a neon glow lamp projecting through the front of the generator housing, designed to light up as a calling signal in **place of** the standard bell Signal.

The "VS" signal can be supplied as an extra on all types of Self-Powered Telephones:

SPS-205 VS
SPS-205 MI-VS
SPS-205 SI-VS

This feature is particularly applicable to: Hospitals, Libraries, Churches, Sound Stages, Guard Calls, Extremely noisy, but constantly-supervised locations, such as power house control consoles, etc.

List Price Extra, each instrument.....**$6.60**

WHEELER HANDSETS

Sound-Powered Telephone Handsets are ideal for use in setting up emergency or convenience communication systems wherever quick, inexpensive, 2-way talking is required. Standard impedance of the SPT-102 Handset: 1200 ohms at 1000 cycles. Special handsets are available to meet specific applications. Information on request.

BURGESS ACOUSTI-BOOTHS—QUIET WITHOUT DOORS

Model 210

MODEL 210 BUSINESS MODEL

The Burgess Model 210 Acousti-Booth is designed with simple, attractive lines to fit into office, hotel, store, depot, and similar business interiors. This handsome booth has a rich brown walnut stain finish which harmonizes with all types of interiors.

Walls and ceiling are lined with a thick layer of sound-absorbent material, protected by a perforated wood facing. This sound-absorbent lining produces remarkable quiet and privacy for telephone conversations inside the booth, in spite of noisy surroundings.

The booth is furnished with a convenient shelf for the telephone instrument, or a pay station telephone can easily be mounted in any position on the plywood wall surface. The handy overhead electric light fixture is included.

Outside dimensions: 30″ wide, 79½″ high, 38″ deep. Front opening is 24″ wide, and 76½″ high. Shipping weight is approximately 250 lbs.; net weight, 200 lbs. Rigid plywood construction throughout for long service life.

Burgess Acousti-Booths offer unusual privacy in telephoning because Burgess acoustic wall construction makes them quiet inside. Since no doors are required, exceptional comfort and sanitation are offered. The Acousti-Booth is always well-ventilated and is easily kept clean. In addition, the absence of doors makes it easier to use because there is no struggle with folding-type doors which may jam or cause trouble.

Model 211

MODEL 211 INDUSTRIAL MODEL

The Burgess Model 211 Acousti-Booth is designed especially for noisy industrial locations where a quiet place for telephoning is necessary. Power stations, factories, mills, and manufacturing plants use this booth to advantage because errors due to telephone misunderstandings are greatly reduced. The interior of the booth acts as a "zone of quiet" to facilitate communication.

Model 211 Burgess Acousti-Booth is constructed of heavy gauge steel throughout. The outside is finished in black; the inside in steel gray. A steel shelf, 8 inches wide, provides a convenient location for the telephone and for taking notes. The electric fixture in the ceiling is complete with switch and provides adequate illumination for the telephone user.

Outside dimensions: 31″ wide, 79¼″ high, 38½″ deep. Door opening is 20″ wide; inside width 24″. Net weight: 350 lbs.; shipping weight approximately 425 lbs.

BURGESS "SCOUT" MODEL ACOUSTI-BOOTHS

Model 601

MODEL 601

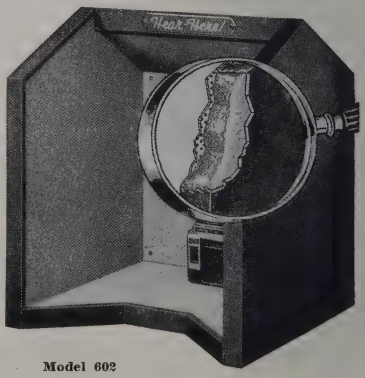
This is an economical and popular wall or shelf type Acousti-Booth which provides a comparative "zone of quiet" for telephone users in busy public places where available space is limited. Reinforced plywood construction assures durability, and a rich walnut finish makes it attractive for use in any location.

Outside dimensions: 28″ wide, 32″ high, 26″ deep. Net weight: 62 lbs.; shipping weight, 80 lbs.

MODEL 602

This booth is a sturdy, all steel unit for wall or shelf type installation in factories, shipping rooms, and other places requiring a small booth of exceptionally rugged construction.

Outside dimensions: 28″ wide, 32″ high, 26″ deep. Net weight: 85 lbs.; shipping weight, 100 lbs.



Model 602

street lighting,
traffic signals,
floodlights and
airport lighting

G-E STREET-LIGHTING EQUIPMENT

Modern street-lighting equipment greatly increases the overall night time visibility, and reduces glare and shadow areas. General Electric luminaires provide more light and distribute that light more efficiently. The "after" photograph, shown above, indicates clearly that more light is properly distributed for "comfortable seeing" by modern equipment than by the older-type units, such as those in the "before" illustration below.

The luminaires described in the following pages meet all present-day street-lighting needs. By the use of these various luminaires, the user can meet the Illuminating Engineering Society standards of light distribution for all types of traffic arteries, from residential streets to super highways.

G-E luminaires have been made functionally simple to promote standardization and to lower maintenance cost.

I.E.S. TYPES OF LIGHT DISTRIBUTIONS

I.E.S. TYPE I DISTRIBUTION

Two-way narrow asymmetrical distribution obtained with deep reflector and prismatic refractor globe

Luminaires with this distribution are recommended for illuminating residential and very light-traffic streets where economy of 4,000- and 6,000-lumen lamps at long spacing is desired. Sidewise shielding of light is very good, together with a high angle of maximum candlepower. Mounting well out over the street is advised.

I.E.S. TYPE II DISTRIBUTION

Two-way narrow asymmetrical distribution

Luminaires with this distribution give best results where they can be placed well out over the paved surface. Sidewise shielding of light is outstandingly good. This, together with a high angle of maximum candlepower which permits long spacings, makes this distribution especially well-suited to residential streets.

I.E.S. TYPE III DISTRIBUTION

C-Sym-Etric or medium asymmetrical distribution obtained with reflector, prismatic refractor globe and shield

Luminaires with this distribution are recommended for illuminating light- to heavy-traffic streets, arteries and highways where highest efficiency is desired. Side-of-street mounting is advised.

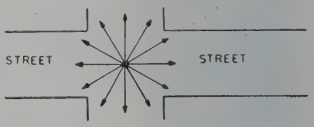
I.E.S. TYPE IV DISTRIBUTION

Wide asymmetrical distribution, obtained by adding deflectors to Type S

Luminaires with this distribution are preferred for curves or intersections where several units will be used; or for light- to heavy-traffic streets and arteries. Side-of-street mounting is recommended.

I.E.S. TYPE V DISTRIBUTION

Symmetrical or "circular" distribution, obtained with reflector and No. 205 or No. 207 glass globe



Luminaires with this distribution are best adapted for center suspension over intersections and wide light-traffic streets where an all-round spread of light is desired; or business streets where high level illumination is desired on sidewalks and building fronts, or over safety and traffic channelizing islands within very wide intersections.

G-E STREET-LIGHTING EQUIPMENT

DESIGNATION OF PENDENT LUMINAIRES

The Form numbers which designate G-E pendent luminaires consist of a basic number (such as 79, 72, 45H7) which signifies the hood or insulator construction, and a suffix letter (such as S, D, R, VR) which signifies the type of reflector equipment. This provides a concise identification for any combination of standard hood or insulator with a standard reflector that may be desired to meet specific requirements for mounting, wiring, insulation values, light control, and appearance.

The Form 79 hood is a die-cast aluminum hood for series or multiple circuits. It is normally wired internally through the supporting bracket, but may also be provided with bushings for external wiring. These die-cast aluminum hoods are preferred by many users, for their attractive appearance and resistance to breakage.

Form 79
with short globe

Form 79
with long globe

The Form 79R is a modern and efficient luminaire for street and highway lighting. The reflector is made of high-efficiency *Alzak processed aluminum with spun-sealed G-E Holophane refractor globe. This luminaire has asymmetric light distribution (IES Type III) and is particularly suited for illuminating light- to heavy-traffic streets, arteries, and highways where highest efficiency is desired. Reflector and hood may be obtained either with natural aluminum finish or with dark green enamel finish. This luminaire will accommodate filament lamps up to 10,000 lumens series or 500 watts multiple, and the 11,000-lumen mercury lamp.

The Form 79S is an attractive luminaire having symmetrical light distribution. (IES Type V.) It is used for lighting intersections or very wide light-traffic streets where luminaires may be center-suspended; or business streets where high-level illumination is desired on sidewalks and building fronts. The reflector is made of *Alzak processed aluminum with spun-sealed, clear rippled or light alabaster globe. This luminaire will accommodate filament lamps up to 10,000 lumens series or 500 watts multiple, and mercury lamps up to 20,000 lumens.

The Form 79D luminaire is same as the Form 79S with deflectors added. This luminaire having asymmetrical light distribution (IES Type IV) is used mainly for illuminating light- to heavy-traffic streets and arteries, particularly those over 40 feet wide. This luminaire will accommodate lamps up to 10,000 lumens series or 500 watts multiple and mercury lamps up to 20,000 lumens.

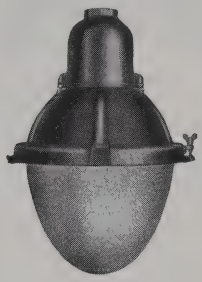
The short globe is standard for Type D and S optical assemblies. For some ornamental installations a longer globe is desired for the sake of appearance. Therefore, Types D and S can be obtained with the long globe.

*Manufactured under Aluminum Company of America patents.

Two types of hinged globe holders are available in place of spun-sealed globes for the Types S, D, and R reflector assemblies. The roller-latch type may be relamped from the ground with a lamp picker, while the C-clamp type is serviced from the pole. Both types uses cast globe holders to insure tightness and long life.

The Form 79AS is an attractive heavy-duty luminaire having symmetrical light distribution. (IES Type V.) It is recommended for lighting business streets where high-level illumination is desired on sidewalks and building fronts. This luminaire is

Form 79I



Form 79AS

large, ornamental, and provides highly efficient light control and glare suppression.

The Form 79AD luminaire is the same as Form 79AS with deflectors added. The Form 79AD has asymmetrical light distribution (IES Type IV) and is particularly suited for lighting medium- to heavy-traffic arteries, express highways, and business streets.

Both the Form 79AS and 79AD will accommodate filament lamps up to 15,000 lumens series or 750 watts multiple, and mercury lamps up to 20,000 lumens.

Form 79VR

Form 79RV

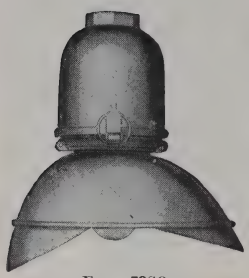
Form 79CR

The Form 79VR is a highly efficient luminaire having 2-way narrow asymmetrical distribution, (IES Type I) very practical for illuminating residential and very light-traffic streets where the economy of 4,000- and 6,000-lumen lamps at long spacing is desired. The reflector is made of *Alzak processed aluminum with G-E Holophane refractor globe spun-sealed. This luminaire will accommodate lamps up to 10,000 lumens series, or 500 watts multiple.

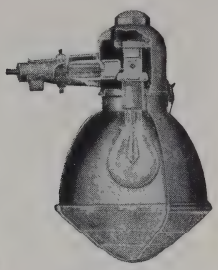
The Type RV is a high-efficiency optical assembly having a two-beam light distribution (I.E.S. Type I). This optical assembly is well suited for lighting residential and very-light-traffic streets where the

G-E STREET-LIGHTING EQUIPMENT

DESIGNATION OF PENDENT LUMINAIRES Continued



Form 79SO



Form 101VR
Luminaire with a heat-insulated adjustable slip fitter

Form 72

Form 45H3

Form 110

economy of 4000- and 6000-lumen lamps at long spacing is desired.

The Form 79CR is an enclosed luminaire having asymmetrical light distribution (I.E.S. Type III). This luminaire is well-suited for lighting residential and very light-traffic streets and alleys where attractive appearance and easy maintenance of lighting efficiency are desired at low cost. The reflector is made of *Alzak processed aluminum with G-E Holophane refractor spun-sealed. 1000- or 2500-lumen lamps are recommended, available for 4⅜-, 5¼-, 5⅜-in. light-center length.

The Form 79SO is an advanced-design open suburban luminaire having asymmetrical light distribution (IES Type III). It is used for lighting residential and very light-traffic streets and alleys requiring exceptional durability and low cost. Reflecting shields shade nearby residences. Either or both shields may be omitted for use at intersections. The reflector is made of *Alzak processed aluminum protected against deterioration by a dichromate finish. 1000- or 2500-lumen lamps are used, available for 4⅜-, 5¼-, 5⅜-in. light-center length.

The Form 101 series of luminaires are the same as the Form 79 luminaires with an adjustable or a heat-insulated adjustable slip fitter added. The slip fitter allows adjustment of the luminaire for proper alignment. The porcelain heat insulator prevents grounds in bracket cable that may be caused by high-temperature operation. The porcelain is in the region of critical temperatures. This time- and temperature-defying protection against insulation breakdown deserves serious consideration.

The Form 72 luminaire differs from the conventional insulator in that it is supported under compression by a clamp around the middle of the insulator. Porcelain, being weak in tension but very strong in compression, will by this method of support better resist breakage. Short circuits and grounds are avoided on the Form 72 because of the strong 2-conductor cable, the large radius of bend, and the snubbing action of the cable in its channel which relieves strain on the binding posts. The cable enters a long porcelain channel and is split well within, so there is no chance of grounding against the metal hoods or pipes.

This porcelain hood is used for series circuits up to 10,500 volts and will support nearly all of the modern G-E optical assemblies.

Form 45H3 is a compact, series-circuit wet-process porcelain insulator for circuit voltages up to 10,500. Constructed of the highest-quality porcelain with bronze tie lugs and external terminals for line wire. The insulator is supported by a small galvanized cast-iron hood which is top-tapped.

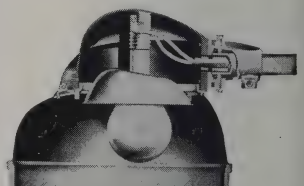
Nearly all of the modern G-E reflector assemblies may be used with this insulator. The illustration shows Type S reflector assembly with roller-latch detachable globe holder.

The Form 110 luminaire is the new G-E luminaire in which the optical assembly and control equipment are combined in a simple compact luminaire. The control element is a photoelectric relay which responds to changes in the prevailing light level, thus turning the light off and on as seeing conditions demand. Operating level is adjustable from one to six footcandles.

The Form 110 luminaire is the simplest way of controlling street lighting from multiple circuits. For the first time, users have available a fiixture complete in itself—one that eliminates expensive pilot circuits of wiring from an external element.

It is especially suitable for isolated installations beyond the reach of existing street-lighting circuits. At these points the luminaires can be operated from a local secondary, thus providing the safety afforded by adequate lighting at places where more extensive street lighting could not be justified.

The Form 109 with 10,000-lumen or 15,000-lumen filament lamps is best adapted to primary traffic arteries or business streets justifying a high level of illumination. Glare is reduced three ways — (1) deep-shielded light source, (2) large low-intensity refractor which has no "hot" spots, and (3) extremely accurate control of light by balanced operation of the ovate reflector and the Holophane verti-laterial refractor. The Form 109 can also be used with a complete line of mercury lamps.



Form 109

Form 46 is a dry-process porcelain insulator for luminaires commonly used on residential and light-traffic streets. It is used on series circuits, preferably under 2500 volts. The Form 46 may be wired either internally or externally. It is equipped with integral porcelain tie lugs which remove the strain from the terminals when wired externally. Two holes through the top of the insulator are used when

*Manufactured under Aluminum Company of America patents.

G-E STREET-LIGHTING EQUIPMENT

DESIGNATION OF PENDENT LUMINAIRES

Continued

wired internally. The insulator is shipped with cork plugs in these openings to prevent condensation from entering when wired externally. Either wing-screw clips or hinged-clamp adapter may be used with the open-type reflectors.

The illustration shows the Form 46 insulator with the open suburban reflector. It may also be used with the radial-wave reflector, enclosed suburban-reflector assembly, and a variety of globes and refractors.

Form 46SO

ORNAMENTAL LUMINAIRES

Ornamental luminaires are used when a liberal proportion of upward light is desired to illuminate trees, as in parks. The illustrations show two distinctive designs.

The G-E ornamental luminaire consists of a cast-iron casing with series or multiple socket, rippled glass globe, and a canopy and canopy holder. It may also be furnished with a refractor, ornamental ribs and bands, or in the lantern-type unit.

Rippled glassware, for these luminaires, has high mechanical strength, efficiency of light transmission, and immunity from the effect of abrupt changes in temperature. The small irregular vertical ridges give excellent diffusion which appears to sparkle.

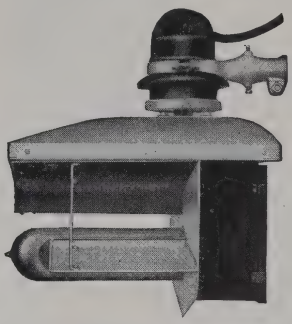
G-E TYPE M-2 SODIUM LUMINAIRES

This luminaire is used for lighting highways, urban and rural traffic arteries, bridges, intersections, traffic circles, grade crossings, underpasses, and industrial yards. It operates from either standard a-c multiple or constant-current series circuit.

The reflectors are polished *Alzak finished aluminum with a dichromate finish and methacrylate-lacquer seal to give them longer life and maintain initial efficiency.

Auxiliary equipment for operating the luminaire is self-contained and includes a complete radio-interference suppressor. Lamp and vacuum flask are held securely, but can be removed easily. Flask breakage is negligible because the lamp can be replaced without moving the flask.

Uses 10,000-lumen sodium lamp, Type NA-9, and No. 71G vacuum flask.



Straight series luminaire with Form 72 insulator for external wiring

*Manufactured under Aluminum Company of America patents.

G-E MERCURY LUMINAIRES

More light is obtained on the street for each dollar spent when mercury lamps are used in modern G-E luminaires because:

1. Mercury lamps produce more lumens per watt of power consumed, than do filament lamps.

2. Maintenance costs will be lower since longer-life lamps makes it necessary to visit the luminaire for relamping only once every 12 to 15 months.

The characteristic bluish-white color of mercury lighting attracts the attention of the public, thereby giving those responsible credit for a modern and progressively lighted street.

Mercury lamps for street lighting find their best application on main business streets and traffic arteries where relatively high levels of illumination are desired. Mercury lighting should be considered where 0.6-foot-candle average, or higher, is desired.

Better visibility is obtained with mercury lighting when light alabaster glassware is used. Refractor-type glassware, for mercury luminaires, should be of comparable size to those specified for filament lamps of the same lumen output.

Mercury lamps may be operated from either series or multiple circuits; a suitable ballast is required in both types of operation.

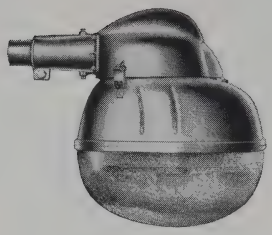
BALLASTS

The new Type ILH high-power-factor ballast is small, lightweight, and efficient. This ballast has a power factor of 0.91. Starting current is less than operating current, and the dangers of high inrush current are eliminated. This ballast will operate over a wide range of voltages without taps.

Ballast

G-E STREET-LIGHTING EQUIPMENT

G-E MERCURY LUMINAIRES — FORM 109



The Form 109 is suitable for any high-speed expressway or heavy-traffic street. The following types of streets indicate the wide range of roadways effectively illuminated by the Form 109: (a) high-speed expressways; (b) interurban freeways, heavy traffic; (c) main urban traffic arteries, heavy traffic; (d) business streets with 2-3 story buildings; (e) complex interchange areas, heavy traffic; (f) bridges and viaducts, heavy traffic.

The Form 109 with 15,000-lumen filament or 15,000- and 20,000-lumen mercury lamps is best adapted to primary traffic arteries or business streets justifying a high level of illumination. Usually, such illumination levels require a linear spacing of less than 175 feet per luminaire. At such spacing the Form 109 luminaire produces for most street widths excellent uniformity in brightness, well within the 4:1 ratio, average to minimum footcandles, mentioned in the American Standard Practices for Street Lighting as a desirable uniformity limit.

Advantages:

Low-angle shielding providing more comfortable visibility . . . safer traffic flow.

High utilization efficiency and improvements in distribution increase visibility.

Vertical angle of maximum candlepower varies with lateral distribution in order to place the light properly for even pavement brightness.

Distinctive modern appearance draws attention to improvements in street lighting.

Completely flexible—designed for use with 15,000-lumen Type A-H1, 20,000-lumen Type E-H1, and 11,000-lumen Type A-H5 mercury-vapor lamps and many of the street-lighting filament lamps. There is available a wide variety of mounting arrangements.

Many new construction features for long life and low maintenance.

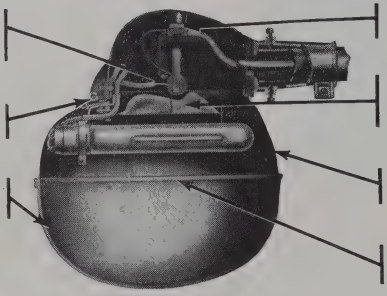
Construction Features

Improved lamp life and lumen maintenance through use of compensating electromagnet

Reflector hinged for convenient relamping

Reduced glassware breakage from pressed glass refractor

Modern appearance attracts attention



Terminal board lines up with incoming cables for easy wiring

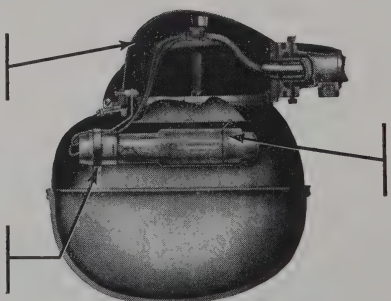
Upper reflector directs the reflected light around lamp outer envelope for high efficiency

Alzak* processed aluminum reflector for high reflectivity

Spun-seated construction for lasting efficiency and refractor life

Cutaway view of Form 109 luminaire with A-H1 lamp

For ample strength the hood is die-cast aluminum with re-enforcing bosses for all connecting parts.



Lamp bail holds either 15,000- or 20,000-lumen mercury lamps in proper position to maintain good light distribution.

Socket is rigidly mounted in hood. Optical assembly can easily be detached for cleaning or relamping without removing the socket.

Cutaway view of Form 109 luminaire with E-H1 lamp

*Manufactured under Aluminum Company of America patents.

G-E ALUMINUM STANDARDS FOR STREET LIGHTING

Because of mounting labor costs, there is today a growing demand for lighting standards that remain free from maintenance year after year. Aluminum with its many advantages—especially freedom from maintenance—is the logical material. Up to now, the cost of the usual methods of fabricating aluminum and the necessity of using low-strength alloys required by these fabricating methods have prohibited the economical production of aluminum standards of sufficient structural strength.

Realizing the need for all-aluminum standards, General Electric has developed an aluminum standard which is definitely an advancement in the field of street lighting. The fabricating technique employed allows the use of aluminum alloys of inherently high corrosion resistance and unusually high strength. This strength is attained by a cold-working process and subsequent heat treatment.

This new G-E aluminum standard is a conical-tapered, seamless lighting standard of extreme strength. It offers life-long resistance to corrosion and consequent freedom from maintenance while retaining its attractive appearance year after year. The actual over-all cost of G-E aluminum lighting standards is definitely less than the cost of acceptable standards of other materials.

ADVANTAGES

The advantages of G-E aluminum standards are of particular importance to lighting engineers and officials planning efficient, low-cost street and highway lighting.

Recent tests show the G-E aluminum standards are actually stiffer and more resistant to denting than other commonly used metal standards. All G-E aluminum standards exceed the exacting EEI and NEMA requirements.

The seamless, tapered construction employed in G-E aluminum standards eliminates the necessity for any welding in the lower 40 percent of the shaft, except in the extreme underside of the base. Thus, G-E standards are able to retain the greatest possible strength in the high-stress area.

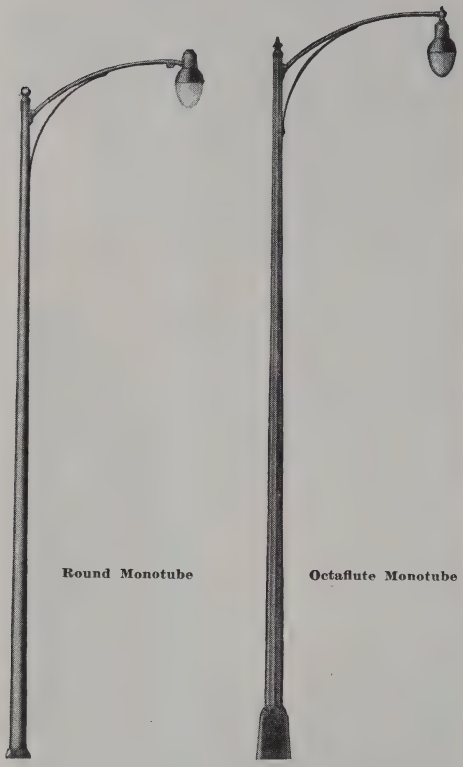
High Resistance to Corrosion—The alloys used in G-E standards were developed by the Aluminum Company of America for exposed use. These alloys combine high strength and high resistance to corrosion, especially in salt-spray atmospheres.

Typical installation of G-E aluminum standards

Pleasing Appearance—G-E standards are highly pleasing in their simple functional design. Their smooth, brushed finish assures a uniform aging to a permanent silver-grey patina. Each G-E standard is satin finished, waxed and individually "tire" wrapped, assuring protection during shipment and erection.

Ease of Handling—Due to their light weight (100 to 150 lb) and reduced number of component parts, G-E standards are easy to transport, assemble, erect and wire.

UNION METAL HEAVY-DUTY STEEL LIGHTING STANDARDS FOR PENDENT LUMINAIRES

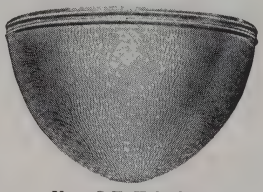


Round Monotube

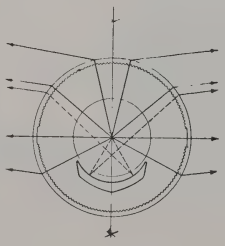
Octaflute Monotube

G-E HOLOPHANE REFRACTORS

Form 79R luminaire with No. 4110 refractor

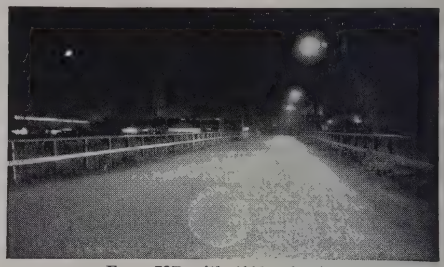


New G-E Holophane No. 4110 refractor



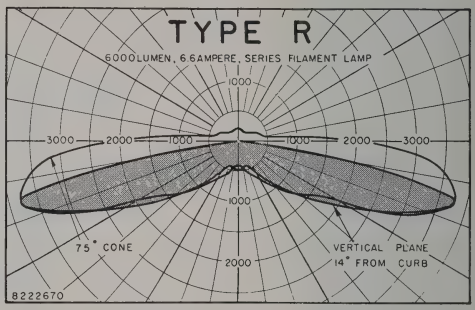
The No. 4110 refractor globe and reflecting shield used in the Form 79R turn most of the light into two strong beams. This narrow distribution is called IES Type III.

These illustrations show the efficiency of the G-E Holophane No. 4110 refractor.

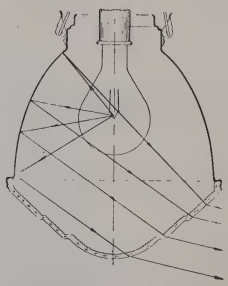


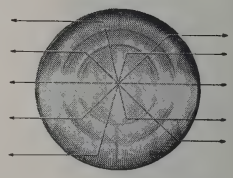
Form 79R with 4110 refractor

Form 79D with clear rippled globe



Vertilateral Bowl Refractor

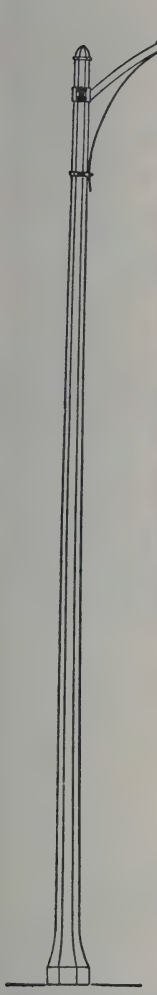




This refractor globe, used in Type VR reflector assemblies, turns and lifts the rays to form two narrow, highly controlled beams 180 degrees apart. The distribution pattern is excellent for residential street lighting which requires long spacing.

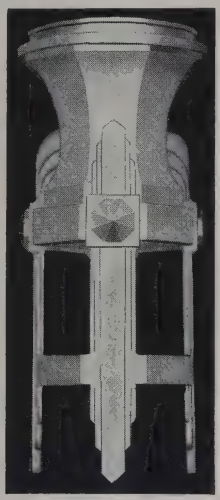
LIGHTING STANDARDS

AMERICAN CONCRETE STANDARDS



Design No. 609 and 610

G-E Folium Casing



The folium casing is used on poles with the Type S fitter. Cast aluminum is standard, but bronze can also be furnished. Two other types of fitters are available as shown below. The Type P is preferred.

Pole adapter

Type P fitter

Type I fitter

Type S fitter

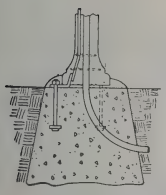
UNION METAL STEEL STANDARDS COLUMBIAN DESIGN

Colonial design with Type S fitter and folium casing

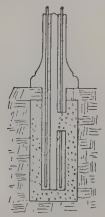
Design No. 807

Design No. 1571

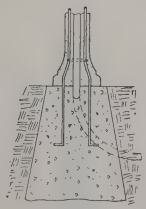
Base Construction



Bolting spider base

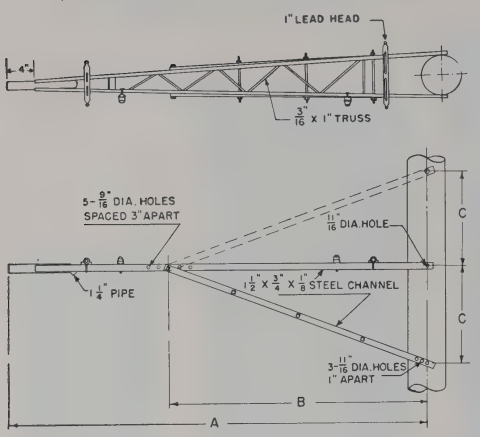


Precast butt base

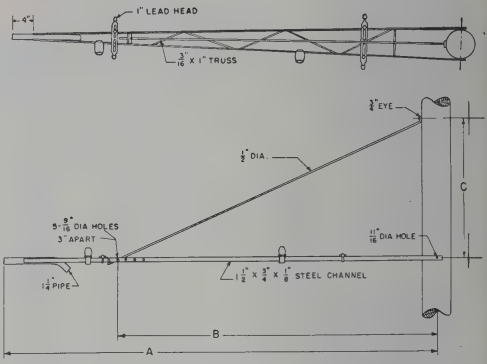


Extended-rod base

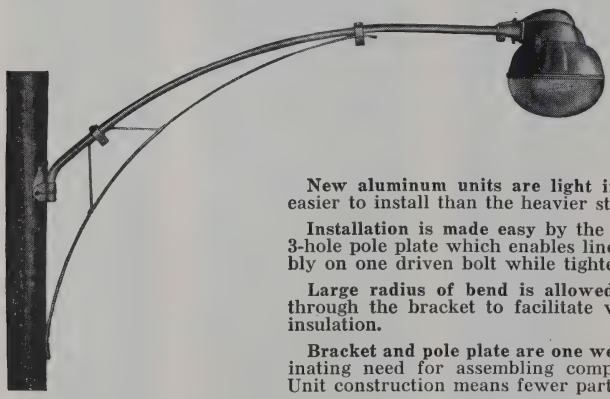
PIPE BRACKETS AND MAST ARMS FOR STREET LIGHTING



For supporting all types of street-lighting luminaires, where conditions require longer extension



and greater strength than the pipe brackets. Twin-channel arm construction offers greater resistance to side sway. Underbraced to provide maximum mounting height. Choice of end fittings for slip-fitter or top-tapped luminaires. Available in a variety of lengths, either overbraced or underbraced.



Sparkling daytime appearance and dependable nighttime service at lower maintenance are the outstanding features of the new G-E line of pipe brackets and mast arms. The units are designed to exceed the NEMA-EEI specifications, and many of the models are available in both aluminum and galvanized steel.

New aluminum units are light in weight, hence are easier to install than the heavier steel brackets.

Installation is made easy by the keyhole slot in new 3-hole pole plate which enables lineman to hang assembly on one driven bolt while tightening other bolts.

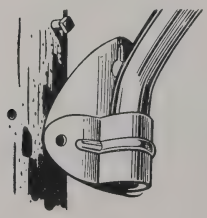
Large radius of bend is allowed for bringing cable through the bracket to facilitate wiring and to guard insulation.

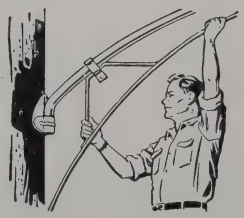
Bracket and pole plate are one welded assembly, eliminating need for assembling components in the field. Unit construction means fewer parts to stock.

One-piece Unit—These new units have the bracket and pole plate all in one piece—ready to mount. There is no time lost in field assembly. Pole plates are adaptable to most poles by bolt tension.

Easier Installation—It's a one-man, one-arm job with the aluminum brackets. Drive a bolt—drop the keyhole slot of the pole plate over the bolt—it's hung. Both hands are free to tighten bolts. Steel pole plates have the same time-saving keyhole slot. A generous radius of bend guards insulation, means easier wiring.

Less Maintenance—Hot-dipped galvanized finish on steel brackets preserves appearance and assures maximum life. Aluminum brackets combine high strength and high resistance to corrosion . . . especially in salt-spray atmospheres.



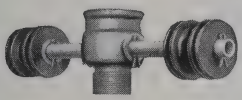


G-E HANGERS AND WIRING ACCESSORIES FOR STREET LIGHTING

SPREADER ARMS

Spreader arm to clamp to bracket (3500 volts or less)

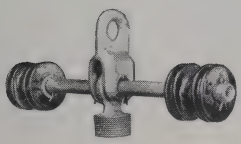
Sizes for 2-, 1¼-, or ¾-in. pipe.



Spreader arm to mount on bracket end (3500 volts or less)

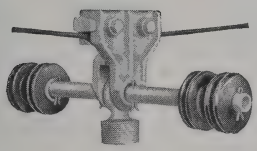
For 1¼-in. top tap, with 1¼-in. bottom pipe thread.

SUSPENSION HANGERS



Eye-suspension hanger

With 1¼-in. stud and spreader arm (3500 volts or less).



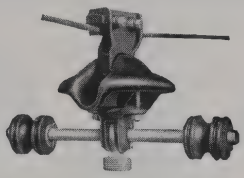
Span-wire clamp suspension hanger

With 1¼-in. stud and spreader arm (3500 volts or less).

Span-wire clamp suspension hanger

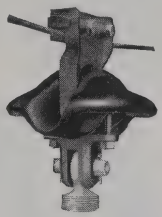
With 1¼-in. stud, without spreader arm.

SUSPENSION HANGERS (Continued)



Span-wire clamp suspension hanger

With 1¼-in. stud and spreader arm (for all series circuits).



Span-wire clamp suspension hanger

With 1¼-in. stud, without spreader arm (for all series circuits).

MISC. SUSPENSION DEVICES

Plumbizer

(Green paint finish)

Sizes:

1¼-in. upper tap, 1¼-in. lower nipple.
2-in. upper tap, 1¼-in. lower nipple.
2-in. upper tap, 2-in. lower nipple.

Eye-suspension stud

Sizes:

With 1¼-in. thread.
With ¾-in. thread.

Cable inlet

1¾-in. top and bottom thread.

INSULATED-WIRE HOLDERS

(¾-in. and 1-in. opening)

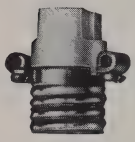
For mounting 1¼-in. pipe

For mounting to wood pole

G-E SOCKETS AND RECEPTACLES FOR STREET LIGHTING

Replacement parts for street-lighting luminaries, both current and superseded forms. Carefully designed and constructed to avoid failures from the rigorous combination of heat, corrosion, and vibration that is usually encountered in street-lighting service.

MULTIPLE SOCKETS



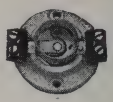
Cat. No. 45X841
Mogul screw-base, skeleton-type

Cat. No. 45X850
Mogul screw-base, skeleton-type

Cat. No. GE427
Medium screw-base, porcelain-type with mounting yoke

Cat. No. 1222990G15, -G18, -G19, -G20, and 320X6
Mogul screw-base, with supports

Cat. No 49X958
Medium screw-base, porcelain-type



Cat. No 78X144
Medium screw-base, with cast binding posts

Cat. No 5562267G3
Medium bi-post base, for 20-amp series lamp operated from Type IL transformer

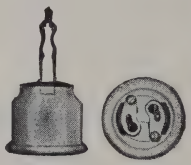
SERIES SOCKETS

Cat. No. 4815866G1 and -G2
Mogul screw-base, straight shell, porcelain
Mogul screw-base, straight shell, black Textolite

Cat. No. 4815866G10 and -G13
Mogul screw-base, flared shell, porcelain
Mogul screw-base, flared shell, black Textolite

Cat. No. 5556944G1 and 830801G1
Mogul straight shell only, porcelain
Mogul straight shell only, black Textolite

Cat. No. 60X161
Mogul screw-base contact shell and prong assembly only

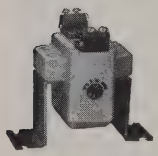


Cat. No. 4865687
Medium bi-post base, porcelain

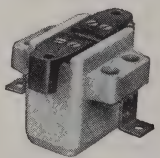
Cat. No. 5556945G1 and 4815845G4
Mogul flared shell only, porcelain
Mogul flared shell only, black Textolite

Cat. No. 12X491
Mogul screw-base extension, porcelain shell
Correctly positions a 5⅜-in. light-center lamp in a luminaire constructed for use of 7-in. light-center lamp

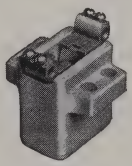
SERIES RECEPTACLES



Cat. No. 4815794G28
Dry-process porcelain, horizontal binding posts with support



Cat. No. 4815794G5
Dry-process porcelain, vertical binding posts with mounting straps
(Replaces Cat. No. 177143, 294185, 39X329)

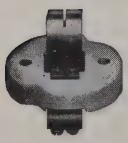


Cat. No. 4815233G1
Dry-process porcelain, horizontal binding posts

Cat. No. 4815233G3
Dry-process porcelain, vertical binding posts

Cat. No. 4815089G1
Dry-process porcelain, one-side support

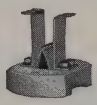
Cat. No. 84X502
Dry-process porcelain receptacle only



Cat. No. 4830476G7
Disk-type interchangeable with superseded disk-type, Cat. No. 4830476G2

Cat. No. 4830476G3
Disk-type with mounting yoke and spacers

Cat. No. 3758986G1, G3, -G4, and -G8
Wet-process porcelain receptacle only
With mounting plate for Form 79 hoods with one porcelain bushing or one-gland bushing or plain hood
With mounting plate for Form 79 hoods with two porcelain bushings or two gland bushings or plain slipfitter
With mounting plate for heat insulated hood



Cat. No. 8463905G1
Dry-process porcelain, assembly for converting to Form 79 deep-bowl reflector

Cat. No. 4830476G6
Disk-type with mounting yoke, Interchangeable with superceded disk-type, Cat. No. 4830476G1

G-E POLE- AND SUBWAY-TYPE CONSTANT-CURRENT TRANSFORMERS, TYPE RO

For 6.6 Ampere Series-lighting Loads
2400 Volts (with 2150-volt Tap)—60 Cycles

The Type RO is a constant-current transformer which operates automatically. It can be mounted on poles or installed in vaults in remote districts or where subdivided downtown lighting circuits are desired. It can be controlled by controllers and time switch, or photoelectric relay.

Built in sizes ranging from 1 to 30 kw, to operate at any commercial primary voltage and frequency or secondary current, but the standard transformer is for 60 cycles, 2400 volts on the primary and 6.6 amperes on the secondary. The 2400-volt transformer will operate satisfactorily on from 2300 to 2500 volts, and a tap is provided on the primary for operation at 2150 volts without reduction of output.

These features are combined with the same current regulation through as wide a range as offered by the best station-type-constant-current transformer. This feature alone practically guarantees the normal life of the lamps operating on a circuit controlled by such a transformer. The efficiency is almost the same as for the station-type transformer and the primary power factor is 75% at maximum load.

The high internal reactance of the transformer serves to protect the lamps at starting and acts instantaneously to check surges on the line which would otherwise tend to shorten the life of the lamps.

The moving secondary coil with its high repulsion gives almost perfect regulation from full load to dead short circuit. This feature not only protects the lamps from changes in current, because of changes in secondary load, but also protects the lamps from fluctuations in primary voltage.

Prices include oil.

Lightning arresters must be used on transformers on both primary and secondary for protection.

Similar transformers available with built-in power-factor correction—Type ROC. Information on request.

The Type RO transformer is also available in subway type for mounting in subways or manholes. This transformer is almost identical with the pole-type transformer, except that it is enclosed in a specially designed cast-iron waterproof tank. Since poles carrying circuits are being removed from many of the city streets, this transformer may be mounted underground and thereby connected directly to the underground feeder circuits and lighting circuits.

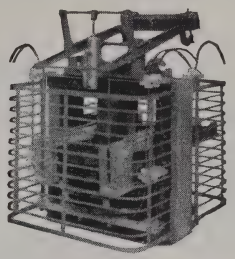
Subway transformers are equipped with oil indicating plugs installed in the tanks to indicate the oil lever without requiring the removal of the cover. The tanks should be filled, with the top oil plug open, until the oil runs out and then the plug should be closed. To test for oil level at any time, the lower indicating plug should be opened. In case the oil does not flow out, this plug should be reclosed and the top plug opened, additional oil being poured in until it flows therefrom. The plug should then be reclosed.

If the primary circuit leads into the subway from overhead, pole-type cutouts can be used. If, however, the primary circuit is entirely underground, the D & W subway fuse cutouts must be used.

G-E AUTOMATIC STATION TYPE CONSTANT-CURRENT TRANSFORMERS, TYPE RF

For Operating A-c 6.6-ampere Series-lighting Loads

2400 Volts (No Taps)—60 Cycles



Type RF with band-iron casing

Designed for use in an unattended substation. Can be used for any indoor installation.

Built in practically any capacity and for any commercial voltage, frequency, and secondary current, but it is recommended that, on account of the high secondary voltage, capacities not exceeding 20 kw be operated with single-circuit secondary. Sizes from 40 kw are furnished with multicircuit secondary, and can be operated either single-circuit or multi-circuit.

Can be started up automatically with coil together and with only one lamp on circuit, regardless of capacity of transformer. Current surge not sufficient to destroy lamp.

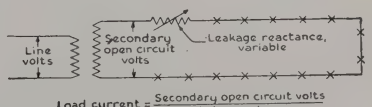
Transformers are not provided with any taps, either for voltage or for partial-load operation. Because constant voltage is maintained in the stations, no primary voltage tap is necessary. Because of high inherent reactance of transformers, if a partial-load tap is furnished, operating characteristic will be impaired.

Equipped with protective low-loss band-iron casing. Balancing mechanism supported on ball bearings.

HOW THE CONSTANT-CURRENT TRANSFORMER REGULATES

The moving-coil, constant-current transformer is a variable-impedance device for regulating output current to a constant value through a large range of load impedance and with a limited variation in primary supply voltage.

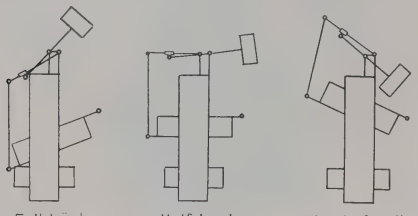
Fundamentally, its equivalent circuit may be considered as a conventional, low-reactance distribution transformer with an external, self-adjusting variable series reactance.


Line volts
Secondary open circuit volts
Leakage reactance, variable
Load current = Secondary open circuit volts / Total impedance

This reactance is magnet-leakage reactance and always adjusts itself to a value, which, when added to the load impedance, permits constant current to flow. The amount of reactance is determined by the

moving-coil position, which in turn is maintained by the force of repulsion between the coils.

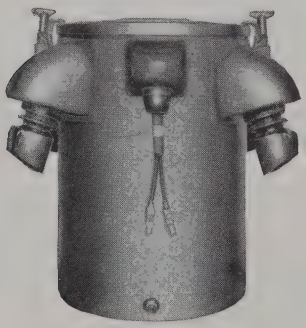
The desired output current sets up a definite corresponding force of repulsion which floats the moving coil in the position which produces this current. For any given set of conditions, a state of mechanical equilibrium is attained whereby the force of repulsion, aided by the counterbalancing weights, exactly balances the weight of the moving coil.



Where the transformer is fully loaded and minimum series reactance is needed, the moving coil floats near the bottom of the core window (Fig. A). As load is removed and more reactance is required to regulate current, the coil floats higher. Fig. C shows it in the position corresponding to no-load (short-circuited) operation.

Changes of load tend to unbalance the equilibrium of forces by increasing or decreasing the force of repulsion. In a freely moving, well-balanced mechanism, these are immediately counteracted by the movement of the floating coil to a new position which restores the mechanical-electrical balance.

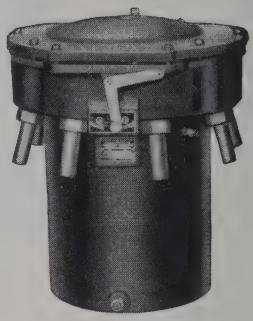
G-E TYPE E-1 STREET-LIGHTING CONTROLLER



Type E-1-F, for pole mounting

Designed to control Type RO pole or subway transformers by means of an adjacent series circuit or a multiple pilot-wire control circuit. With either series operating coil rated from 6.6 to 20 amperes at any frequency, or with shunt operating coil at 120, 240 volts, 50, 60, or 25 cycles; in three types—normally open, normally closed, latched-in. Also furnished for subway mounting when necessary. Switch is for use of any voltage up to and including 7620 volts, 15 amperes, and the most popular voltages with current ratings are as follows: At 7500 volts, switch will break 15 amperes; 6600 volts, 25 amperes; 4500 volts, 35 amperes; or 2300 volts, 50 amperes. Carrying capacity 60 amperes at any voltage above 500. Operates at any frequency.

The wattage of operation coil is such that enough heat is generated to overcome any congealing effect, and switch may be used in almost any weather condition which will be encountered in the northern hemisphere, without sluggish operation. The high-potential test on this controller is 25,000 volts from power to control from power to ground, or from control to ground.



Type E-1-C, for subway use

Pole-type switch is mounted in pressed-metal casing with sheet-steel cover which is not connected to switch mechanism.

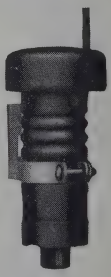
Three moving parts—two readily replaceable contact tips and solenoid, together with necessary levers.

Subway-design switch is same as pole-type in respect to electrical characteristics. Tank is heavy copper-bearing steel. Wet-process bushings have clamp-type terminals.

G-E PELLET LIGHTNING ARRESTERS

For Types RO and ROC Constant-current Transformers

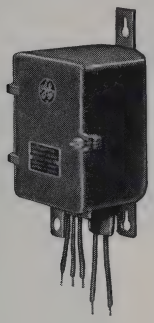
Pole and Subway Type — Outdoor Service Only



Recommended for protection of both the primary and secondary sides of constant-current transformers.

Pellet arresters are single-pole, for outdoor use on both the constant-potential side and the load side of constant-current transformers. Each design has a minimum and maximum voltage rating and, under no circumstances, should it be applied to a circuit the voltage of which can exceed the arrester's maximum rating. Where selection of arresters for the protection of the load side of the transformer is to be made, the arresters should never be applied to a transformer of a larger kilowatt rating than specified on the arrester.

G-E PROTECTORS



Pole type for constant current series circuits

Open circuits in series-street-lighting systems are unavoidable, especially on aerial circuits, and it is desirable from the standpoint of safety first, that when an open circuit does occur, the primary of the main transformer be de-energized. This protector has been developed to operate in conjunction with a controller, or control switch, and its function is to open the switch in the controller as soon as an open circuit takes place.

The mechanism of the protector consists of two small transformers, a thermal switch, relay, set of disconnecting contacts, and a timing resistor. One of the two small transformers is energized by the control circuit and the other by the load circuit to be protected. Under normal operating conditions, the disconnecting contacts are closed on the multiple-control type, and on the series-control type they are open.

When an open circuit occurs in the load circuit, the relay becomes de-energized, closes, and completes a circuit, so that the thermal switch will operate and open the disconnecting contacts on the multiple type (close on the series type) to de-energize the controller operating coil. This allows the controller contacts to open and de-energize the primary of the constant-current transformer.

After the open circuit in the load circuit has been repaired, the protector can be reset (reconnecting the transformer to the main system) by means of a reset lever conveniently located in the bottom of the casing.

This protector operates entirely in air and is housed in an attractive drawn-steel case. It is isothermic in function.

G-E TYPE SL SERIES TRANSFORMERS

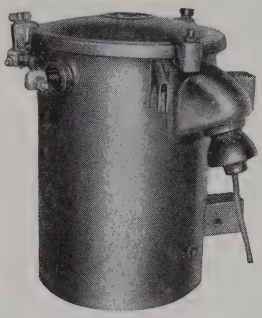
Subway and Aerial Types

For 60-cycle, 6.6-ampere, Constant-current Circuits; 6.6-ampere Secondaries

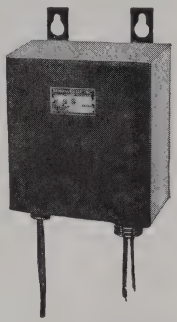
An insulating transformer, the primary winding of which is energized from a series circuit, and the secondary of which is used for supplying current to a small number of lamps connected in series and located where the high potential of the main series circuit would be objectionable—for 6.6 amperes primary and secondary.

At certain locations it is sometimes desirable to have a lower potential than prevails on large-capacity series-lighting circuits, and yet, since they function similarly, it is desirable to control these branch circuits simultaneously with the main circuit.

The SL transformer affords an ideal method for this control, as the low-voltage branch circuit is turned on and off with the closing or opening of the main constant-current-transformer circuit. Fixtures with series sockets and film cutouts must be used on these transformers.



Pole type, oil-filled, 4 and 5 kva



Subway type, compound-filled, 2 to 3 kva

Both the aerial and subway types are available in output sizes from 0.25 to 10 kva. They are mounted in casings made of drawn copper-bearing steel. The aerial-type transformers of 0.25- to 3-kva sizes are compound-filled, and the 4- to 10-kva sizes are oil-filled. The subway-type transformers of 0.25- to 4-kva sizes are compound-filled, and the 5- to 10-kva sizes are oil-filled. For both the aerial and subway types, the secondary current regulation is within ± 1 per cent for the 0.25- and 0.5-kva sizes for loads between 80 and 100 per cent, and for the 1- to 10-kva sizes for loads between 80 and 108 per cent.

All transformers are tested with 22,000 volts applied to the primary with the secondary, core, and casing grounded. Also, 4000 volts is applied to the secondary with the primary, core, and casing grounded.

G-E TYPE IL SERIES TRANSFORMERS

Pole-base and Aerial Types

For Use on 60-cycle, 6.6-ampere Constant-current Circuits

Series-series, Single-lamp

For operating one 6.6-, 15-, or 20-ampere series lamp from 6.6-ampere constant-current series circuit.

Allow the use of high-efficiency series lamps where high potential is impracticable and unsafe. No film cutout is required; each lamp is independent of the others in circuit. In case of an accident to one or more, remainder of lamps on circuit burn without interruption.

For use with pendent units, transformers can be mounted on the crossarms of poles.

When lamp wattage varies between 8 per cent above and 20 per cent below normal, secondary current will not vary more than 1.0 per cent with normal primary current and frequency.

Available in either pole-base or aerial type.

G-E TYPE IL SERIES TRANSFORMERS

Continued

Series-multiple, Single-lamp

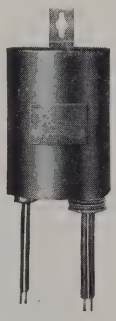
For operating one 115-volt, 40- to 1000-watt multiple lamp from 6.6-ampere constant-current series circuit.

Allow the use of series circuits to feed floodlights, small signs, safety islands, illuminating roads, and warning signs. This permits simple control of multiple lamps, so that they may be turned on with street lights. Series socket or other protective device using a film cutout must be used with all series-multiple, single-lamp transformers. Available in either pole-base or aerial type.

Series-multiple, Multilamp

For operating groups of 115-volt multiple lamps from a series circuit. Available in three sizes, 350, 500, and 750 watts full-rated capacity. Used principally for lighting airport wind tees and obstruction lights, power being supplied from series boundary- or runway-lighting circuits. Close voltage regulation from full load to open circuit, conforms to CAA Specifications. No open-circuit protection device is necessary. Available in either pole-base or aerial type.

Pole-base type



Aerial type

Special Features

All Type IL transformers are given a one-minute insulation test of 22,000 volts between primary and all parts. Also a 1500-volt insulation test between secondary and all parts.

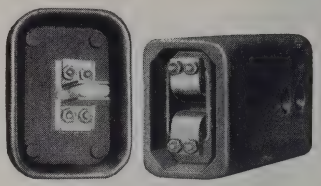
The current regulation is within 1 per cent with load variations from 80 per cent to 108 per cent of normal rating.

Internal construction of pole-base type is the same as aerial type. Leads are brought out through wiping sleeves welded into the cover. Soft-rubber bushings are provided to effectively seal leads passing through the casing into the wiping sleeves. Wiping sleeves are of tinned steel to aid in making a wiped joint.

The core is made of carefully annealed, high-permeability, nonageing, cold-rolled silicon steel. High- and low-voltage windings are wound and insulated separately, then impregnated under vacuum before assembling to the core. Insulation is for 10,500-volt circuit. Entire casing is filled with high quality insulating compound. Case is constructed of one-piece drawn copper-bearing steel.

G-E FORM F-100-B PLUG CUTOUTS

For Ornamental Street-lighting Units



Cutout with plug removed

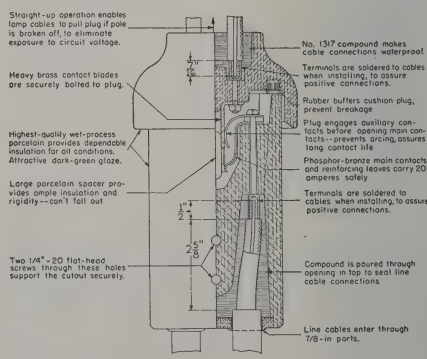
Cutout with spade bracket and cable clamp

For use with ornamental series-street-lighting circuits for mounting in the base of the smaller lighting standards.

Consists of two sections, the box and plug, both made of special-process porcelain. Plug is equipped with flat contact strips, insulated from each other. Provision is made at top part of plug so that insulating compound can be poured in around the leads. Box contains four flat phosphor-bronze springs. Contacts are assembled within an air-expulsion chamber.

If it is desired to use cutout for disconnecting several lamps, this chamber may be filled with G-E No. 21 oil.

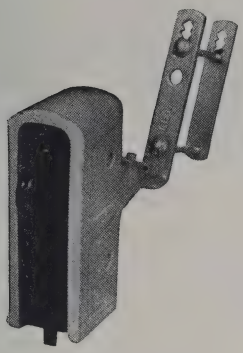
At the top of box, a hole is provided through which insulating compound can be poured. Two holes are provided in bottom of contact of cutout for parkway cable.


Straight-up operation enables lamp cables to pull plug if pole is broken off, to eliminate exposure to circuit voltage.
Heavy brass contact blades are securely bolted to plug.
Highest-quality wet-process porcelain provides dependable insulation for all conditions. Attractive dark-green glaze.
Large porcelain spacer provides ample insulation and rigidity--can't fall out
Two 1/4"-20 flat-head screws through these holes support the cutout securely.
No. 1317 compound makes cable connections waterproof
Terminals are soldered to cables when installing, to assure positive connections.
Rubber buffers cushion plug, prevent breakage
Plug engages auxiliary contacts before opening main contacts--prevents arcing, assures long contact life
Phosphor-bronze main contacts and reinforcing leaves carry 20 amperes safely
Terminals are soldered to cables when installing, to assure positive connections.
Compound is poured through opening in top to seal line cable connections
Line cables enter through 7/8-in ports.

Sectional view of Form F-100-B cutout

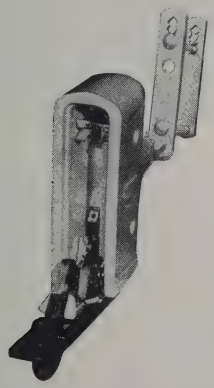
G-E DISCONNECTING DROPOUT CUTOUT

For Type SL Transformers and Loop Sectionalizing Application



Dropout cutout

A disconnecting switch for Type SL transformers and loops of series-lighting circuits, with automatic open-circuit trip protected from accidental operation by a surge-voltage by-pass. It keeps the main circuit closed, prevents unnecessary breakdown of luminaire film cutouts by voltage surges, removes voltage from broken wires, protects transformers



Cutout with door open

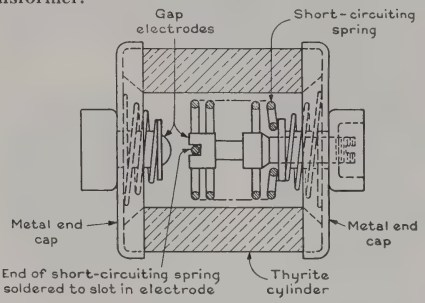
and cables from sustained overvoltage of open-circuit operation, provides convenient and positive means for disconnecting the transformer or loop for servicing. For aerial mounting on crossarm.

Used for series loops having a drop of not more than 1,000 volts, all currents to and including 20 amperes. Open-circuit voltage must not exceed 10,000 volts.

Used for Type SL transformers up to 10-kw rating in 6.6-, 7.5-, and 20-ampere primary rating.

G-E THYRITE BY-PASS

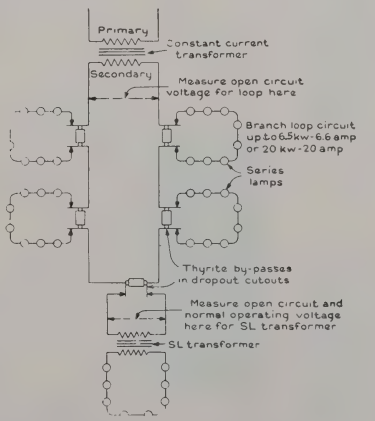
The Thyrite by-pass, the detector and trip element of the dropout cutout, is the means for automatically releasing the door in event of open circuit—thus allowing the door to be thrown open, disconnecting as well as short-circuiting the protected loop or transformer.



Cross-section view of Thyrite by-pass

The Thyrite by-pass is shunted across the load, inside the cutout. It is able to detect the difference between surge overvoltage and open-circuit voltage; and will pass the former through it harmlessly, but close upon the latter.

The impedance of a properly selected Thyrite by-pass to normal voltage is sufficiently high that leakage current and heating are negligible. A surge voltage encounters (because of the inherent properties of Thyrite) relatively low impedance, and will therefore pass readily through the Thyrite material or spark across the internal gap; but the properties of the Thyrite will prevent a power follow. A sustained overvoltage resulting from open-circuit operation, however, will produce sufficient current flow (either through the Thyrite material or across the arc gap, or both) to develop the heat necessary to melt the solder holding the short-circuiting spring. The release of the short-circuiting spring forces out the metal knobs projecting from the end caps, allowing the Thyrite by-pass to slide down into the slots in which it is normally held, thus causing the slider to be released and allowing the door to be thrown open. Only a fraction of a second is required for this operation.

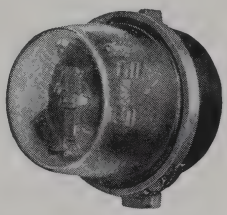

Primary
Constant current transformer
Secondary
Measure open circuit voltage for loop here
Branch loop circuit up to 6.5 kw-6.6 amp or 20 kw-20 amp
Series lamps
Thyrite by-passes in dropout cutouts
Measure open circuit and normal operating voltage here for SL transformer
SL transformer

Typical application of dropout cutout on Type SL transformer or loop circuits

G-E TYPE K-1 OR K-2 30-AMPERE REMOTE-CONTROL MULTIPLE SWITCHES

The Type K-1 remote-control switch is a single-pole, single-throw magnetic switch for operating one or more lamps on one low-voltage multiple circuit. Its application is for remote control by pilot wire or cascade connection for indoor or outdoor

Type K-1 multiple switch



Type K-2 multiple switch

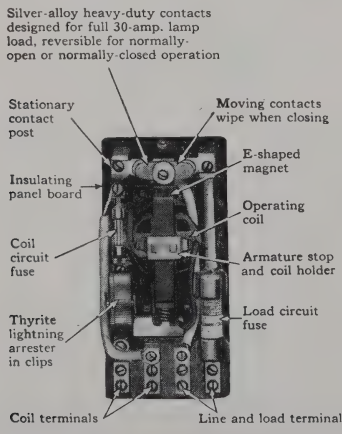
mounting, on a pole or in the base of an ornamental standard. The capacity of this multiple switch is 30 amperes normal lamp current at 125 volts, or any frequency normally open or normally closed with an inrush capacity up to 15 times normal current. The operating coil consumes about 2 watts at 125 volts a-c, 60 cycles.

Switch is supplied with or without the following optional equipment: 30-ampere load circuit fuse; 2-ampere coil circuit fuse; carbon-block lightning arrester or coil circuit; Thyrite arrester on coil circuit, alternative with carbon-block arrester for surge voltage protection.

Switch is also available with a 6.6-ampere operating coil for operation from series-lighting circuits with Type IL transformer.

The Type K-2 has the same electrical characteristics as the Type K-1. In the K-2 all components are mounted on a standard plug-in meter base. The control element is easily removed for servicing. Uses glass meter cover.

Approximate shipping weight, 10 pounds.


Silver-alloy heavy-duty contacts designed for full 30-amp. lamp load, reversible for normally-open or normally-closed operation
Stationary contact post
Moving contacts wipe when closing
E-shaped magnet
Insulating panel board
Operating coil
Coil circuit fuse
Armature stop and coil holder
Thyrite lightning arrester in clips
Load circuit fuse
Coil terminals
Line and load terminals

All terminals, clips, etc. of brass, cadmium plated

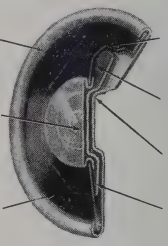
G-E FILM CUTOUTS

Copper-oxide disk cutouts are supplied in this handy plastic screw-top container, clearly labelled

Enclosed Copper-oxide Film Cutouts

Used with individual lamps in series circuits to provide circuit continuity when the lamp fails.

G-E copper-oxide film cutouts are outstanding for their dependable operation and sturdy construction. The dielectric value of copper oxide is carefully controlled for uniformity, and the film is not affected by heat or pressure. The oxidized disk is securely enclosed in a moistureproof aluminum and fiber casings which resists damage and will not separate. Carefully controlled production of this standardized cutout in large quantities makes its high-quality, reliable protection available at low cost.

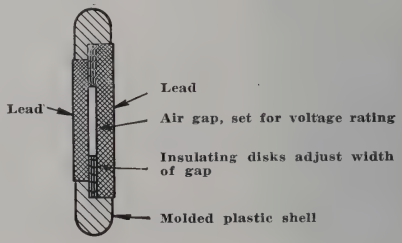

Rolled metal edge makes cutout strong and easy to install.
Smooth flat surfaces insure good electrical contact.
Stiff fiber insulation, securely clamped makes cutout mechanically sturdy; it will not fall apart.
Fiber insulation excludes moisture; colored for identification of rating.
Oxidized copper disk gives excellent uniformity of dielectric value.
Indentation centers copper insert.
"All-round" contact makes cutout pressureproof.

Enlarged cutaway view of enclosed copper-oxide film cutout

Air-gap (Lead-disk) Cutouts

Air-gap cutouts are high-voltage types for use with Type SL series transformers for the protection of the transformer itself. Two lead inserts are separated by an air gap (variable according to voltage rating). Open-circuit voltage breaks down the dielectric of the gap, and the resulting current flow softens the lead sufficiently to cause the two inserts to fuse together through the gap.

Cutouts of this type should not be used for lamp protection; a branch series circuit supplied by a Type SL transformer should have its lamps protected by copper-oxide disk cutouts of proper rating, so that the transformer protective cutout will operate only if the circuit itself goes open.



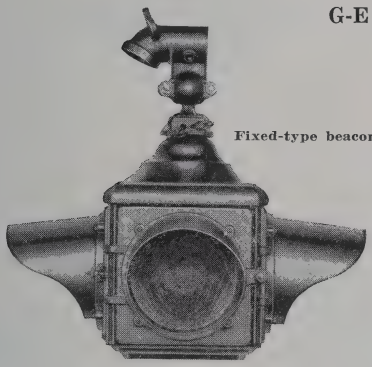
TYPE F TRAFFIC CONTROLLERS

The **expansible** Type F controller is universally applicable in the field of pre-timed traffic control, interconnected or noninterconnected. Initially applied to present-day needs, the controller can be adapted to more complex future traffic problems by the simple addition of dial units, relays, and other accessories.

For many present-day applications the single-dial unit will suffice. Should traffic problems grow more complex the **expansible** feature allows for the addition of unit parts to provide greater flexibility of signal timing.

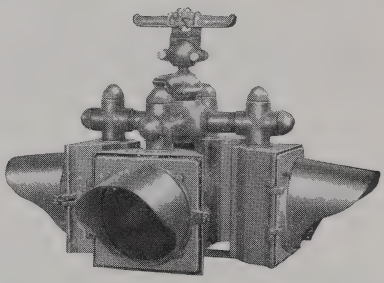
Installation, maintenance, and changeover are facilitated by the unitized construction of the timer, dial units, and accessories. Simplified construction and precision-built parts assure long life.

G-E TRAFFIC BEACONS



Fixed-type beacon

Adjustable-type beacon



Beacons are used as a visual warning of danger points to motorists and pedestrians. Brilliant flashes of light from these beacons capture the attention, warning the motorist that caution is necessary. They use the same high-efficiency optical unit as G-E traffic signals.

Adjustable-type Beacons

The adjustable beacon uses one or more of the standard G-E signal-section units. These are held by bracket assemblies that can be arranged for turning the separate units in whatever directions are required. Can be supplied for mounting from a span wire, mast arm, or post top.

Fixed-type Beacons

Fixed-type beacon uses a rigid frame mounting, giving a warning indication in two, three, or four directions, as may be desired.

Can be supplied for mounting from a span wire, mast arm, or post top.

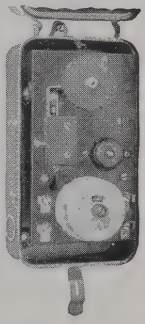
Red or amber lenses may be used.

Weatherproof Flasher Mechanisms

Complete in enclosing case.

Can be mounted on the pole from which the beacon is suspended. This arrangement gives best accessibility for servicing the flasher. A synchronous-motor drive is used to operate the same heavy-duty flashing contacts used in the G-E Type D controller.

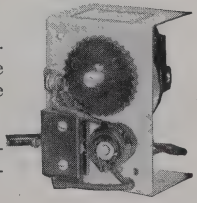
Fuse protection and a key-operated switch which can be turned without opening the housing are included.



Special Flasher Mechanisms

Will fit in the fixed-type beacon only. May be used to make an installation complete in one unit.

Radio-interference suppressors are included in both flashers.



G-E TRAFFIC SIGNALS

ADJUSTABLE

General Electric adjustable signals are designed for versatility and flexibility while offering the highest operating efficiency and accuracy of light control.

Each sectional unit is complete in itself. It can be used alone as a one-color, one-way signal, or two or more sections can be grouped into complete signal faces for orientation in two, three, four or more directions. Thus, G-E adjustable signals permit effective vision from all directions in locations where streets do not intersect at right angles or where complex intersecting streets pose a problem. A variety of mounting arrangements is available to suit the specific requirements of any installation.

The outstanding design, versatility, and numerous cost-saving features of G-E adjustable traffic signals have long made them the choice of many county, state, and municipal traffic engineers.

Features

Effective optical system—Sagged-glass reflectors provide high efficiency and accurate light control. Specially designed lens, which minimizes false indications, actually surpasses I.T.E. performance specifications. Fixed-focus sockets of molded plastic position lamps accurately at the focus of the reflector.

Double-sealed against dust and moisture—A combination of four gaskets forms two separate seals against dust and moisture entering optical system. This complete sealing of the optical system is designed to keep light effectiveness high and maintenance costs low. The socket is gasketed to the reflector, the reflector to its holder, and the holder to the door assembly. The gasket between the reflector holder and the door is of crowned, air-cored, extruded construction. It envelops the periphery of the lens and completes the seal between lens and door frame. This provides a high degree of protection to the lens. The reflector, its holder, and the socket can be removed or replaced easily without tools.

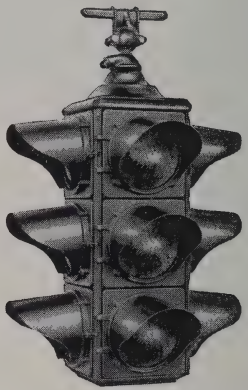
Die-cast aluminum signal housing—Signal housing and door assembly are die-cast of aluminum for accuracy, long life, and pleasing appearance.

Attractive, long-lasting finish—A high-lustre baked-enamel finish in dark green yields permanence and enhanced appearance. Federal yellow or black finishes of the same quality will be furnished when specified. There is a nominal charge for combinations of the above colors or for other colors.

FIXED TYPE

Description

Fixed-type signals are designed to provide four-way signal indication from a single unit. This type of signal is used for two-street 90-degree intersections and on main arteries or highways where visibility conditions permit clear view from all traffic lanes.



Three-color, four-way fixed type, span-wire mounted

Features

Complete unit construction—for complete interchangeability, ease of adaptation, and simplicity of maintenance.

Highest optical efficiency—through use of a parabolic, silvered reflector, highly transmissive lens, and permanent-focus lamp and lens holder.

Freedom from false indication—obtained by scientific design of reflector contour.

Lasting construction—through use of nonferrous metal parts, molded-composition and rubber-insulated electric parts, and moisture-insulating gaskets.

Ease of maintenance—through hinged suspension and single-latch clamping of unit frame to signal housing.

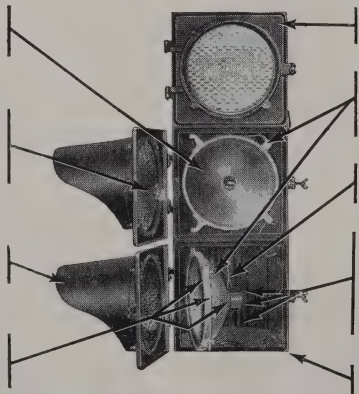
Low-cost operation—through optical efficiency. A 60-watt standard traffic-signal lamp gives complete effectiveness.

Sagged-in glass reflector eliminates inaccuracies, whorls, striae, and other deficiencies of blown glass. Reflector remains in signal section when door is open.

Extended rubber gasket-crowned, air-cored and resilient — makes positive, dust-tight seal between lens and reflector holder. Lens, cushion-mounted by extruded gasket, assures accuracy of light control and color fidelity.

Sheet-aluminum visor of conventional design. Available also in "full-circle" and "tunnel" designs and in various lengths.

Multigasketing (sealing) between socket and reflector, reflector and holder, holder and lens, seals optical system from dust, dirt, and moisture.



Signal section is completely sealed. Door is held firmly in place against cotton-wicking gasket by wing nut.

Reflector hinged in housing. Held in place by thumb-operated latches. Can be opened for access to reflector, socket, and wiring. No tools needed for removal and replacement of these elements.

Color-coded Flamenol* wire runs to a terminal block in either top or bottom signal section.

Fixed-focus socket is permanently factory set to focal point of reflector assuring maximum efficiency of the optical system. Socket and reflecetor are held securely to reflector holder by springs of Parkerized piano wire. Reflector is protected and accurately positioned by reflector holder.

Die-cast aluminum signal housing and door frame.

Complete interchangeability of individual signal units and optical units contributes to flexibility and ease of maintenance.

*Registered trade-mark of General Electric Co.

G-E TRAFFIC SIGNALS, ADJUSTABLE TYPE

Cast-bracket Mounting

Description

This completely new-type traffic signal mounting is designed to cut installation and maintenance costs. It consists of top and bottom cast brackets for use with two- and three-way adjustable signals.

These new G-E brackets can be installed quickly and easily because there are fewer parts to mount. Maintenance is simplified because the bottom slip-fitter bracket has a built-in terminal compartment—easily accessible and with plenty of finger room for wiring.

Signals sections such as WALK, WAIT, or arrows can be added conveniently to the bottom bracket.

Lower bracket has built-in terminal compartment. Signal can be wired easily and quickly. Servicing is easy because terminal board is quickly accessible.

Advantages

Low installation costs—Signal can be wired quickly and easily because terminal board is readily accessible in the slip-fitter bracket.

Low maintenance costs—Servicing is easy because terminal board is quickly accessible. It is only necessary to back off four screws; remove cover and the terminal board is ready for inspection.

Pleasing appearance—Clean, modern and functional lines of this signal improve appearance of any installation.

Signals conveniently added—Additional signal sections such as WALK, WAIT, or arrows can be added to bottom bracket. When this provision is specified, the bracket is tapped and capped until the extra section is required.

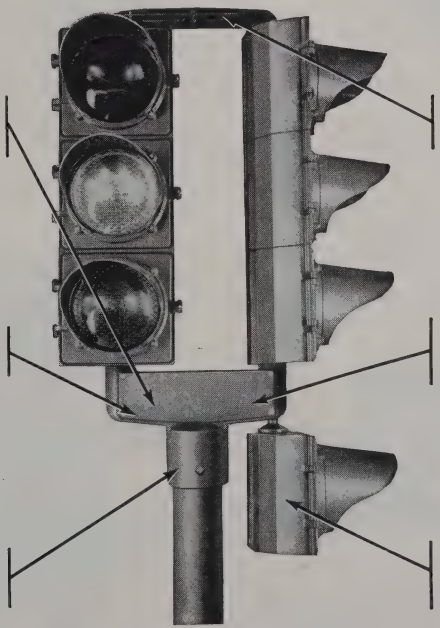
Accurate signal alignment—Rigid castings and signal housings are designed to provide correct and sturdy alignment.

Construction Features

Ample room provided for terminal block, yet good appearance maintained. Two terminal blocks available—7- or 12-terminal type.

Easy access to terminals and wiring when compartment door is removed.

Integral slip-fitter with three positioning setscrews for 4" standard pipe. (Fits 4½" O.D. post top.)



Complete two-way, three-color, signal with added bottom signal section. Cast-bracket mounting.

Ornamental top bracket of cast aluminum for 2-way signals. Fabricated bracket substituted when 3-way signals are specified.

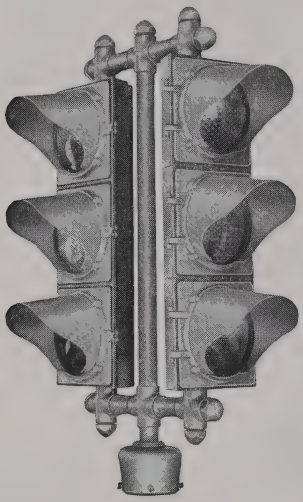
Lower bracket has built-in terminal compartment. Nipple and locknut fastens signal face securely to bracket. Heavy cast-aluminum construction.

Bottom signal sections conveniently added when this provision is specified. Bracket is tapped and capped. Adapter nipple can be supplied.

G-E TRAFFIC SIGNALS
ADJUSTABLE TYPE

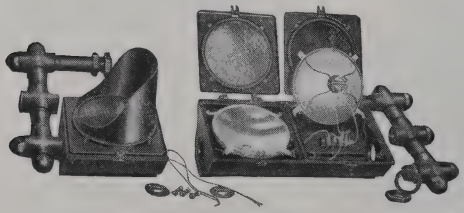
G-E traffic signals are designed to meet the demands of all traffic conditions and to comply fully with the specifications of the Institute of Traffic Engineers.

The adjustable signal consists of single sections which are joined together by means of clamping plates and short bolts to form an attractive and highly efficient signal assembly. Each section has a strong weatherproof die-cast housing in which is mounted the famous General Electric optical unit.



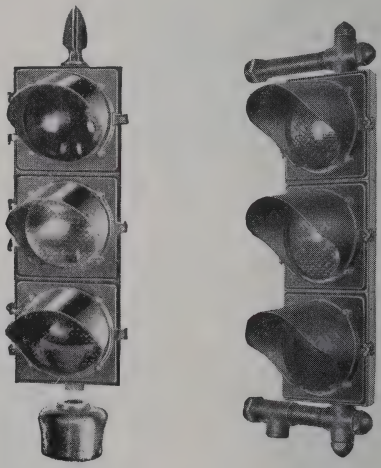
Three-color, two-way post-top adjustable signal

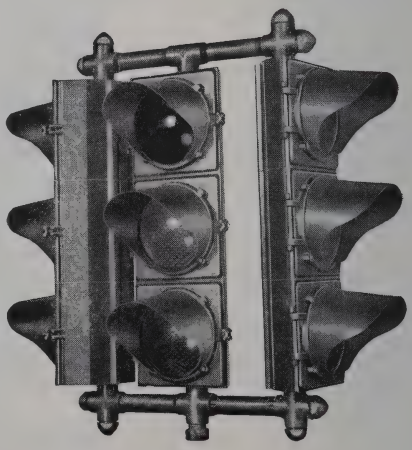
The housing is strong so as to withstand the shocks of traffic accidents, and the light weight facilitates suspension mounting. These qualities mean low maintenance and replacement costs and save the time and expense of frequent repairs.



Each signal may have any desired number of complete sections, and only a small open-end wrench is required to add or subtract these units. The clamping device for holding the sections together consists of two flat plates through which three short bolts are passed. A large hole through the center of the plates provides plenty of room for wiring.

Two orienting bosses are provided so that the signals are perfectly aligned. The bosses can be removed so that the sections may be rotated with respect to each other. This method of assembling the signals has the advantage over tie rods or other commonly used arrangements in that it is not necessary to disturb the original signal if it is desired to add a walk light or arrow signal. Additional new-length tie rods are not required, and the change is much more easily made with the short bolts and clamping plates.

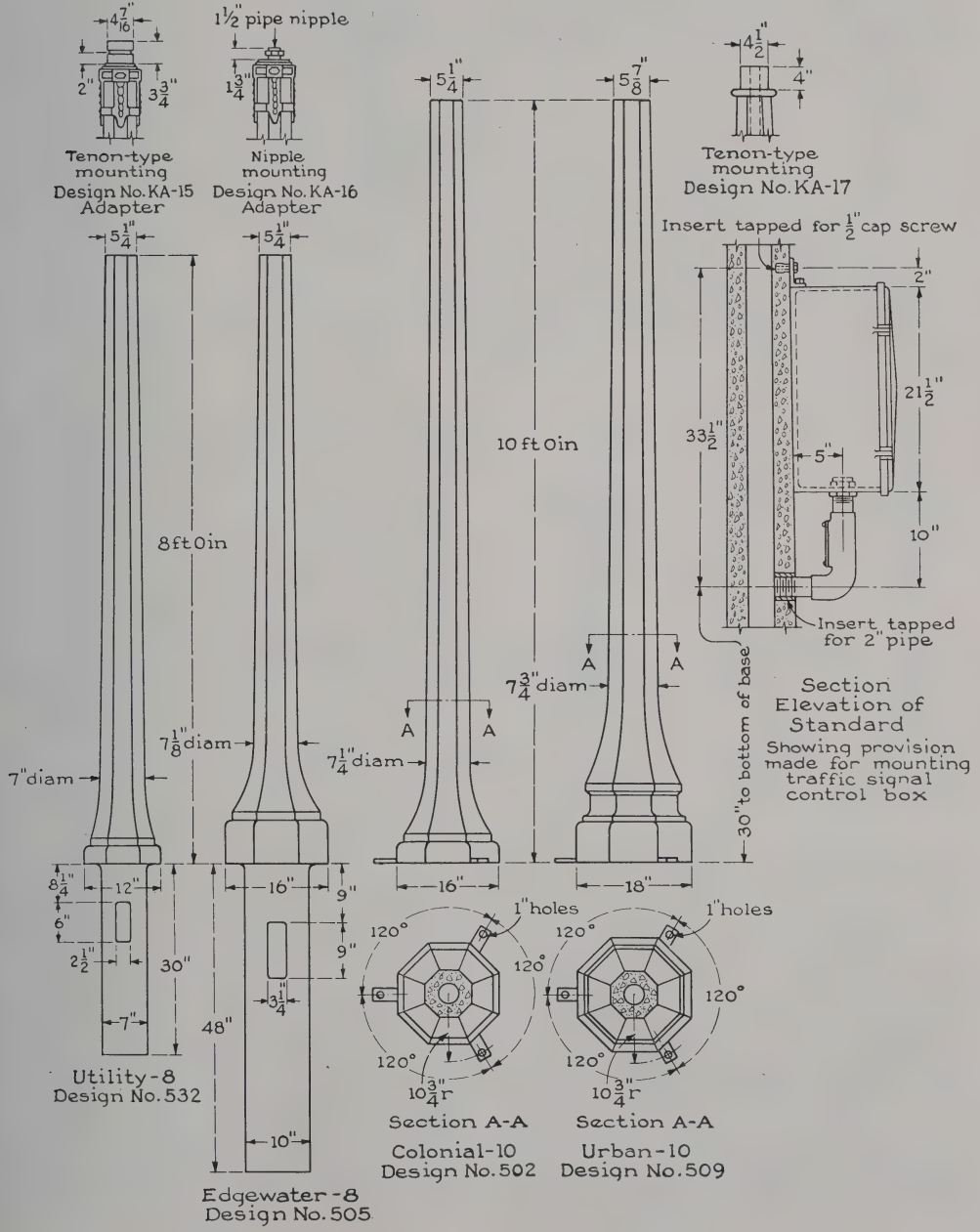




AMERICAN CONCRETE TRAFFIC-SIGNAL POLES

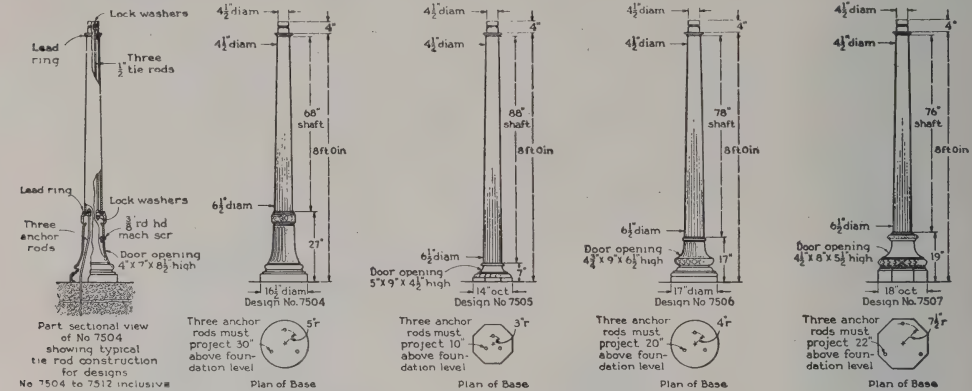
Concrete traffic-signal poles are available in a variety of designs. One may be chosen which matches or harmonizes with local lighting standards.

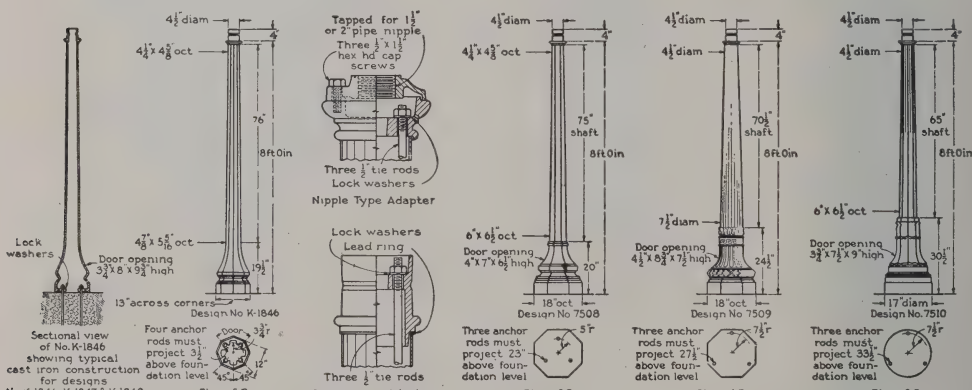
These poles can be furnished with 4½-inch-diameter tenon top to accommodate a slip-fitter type of signal or with a pipe-nipple mounting.

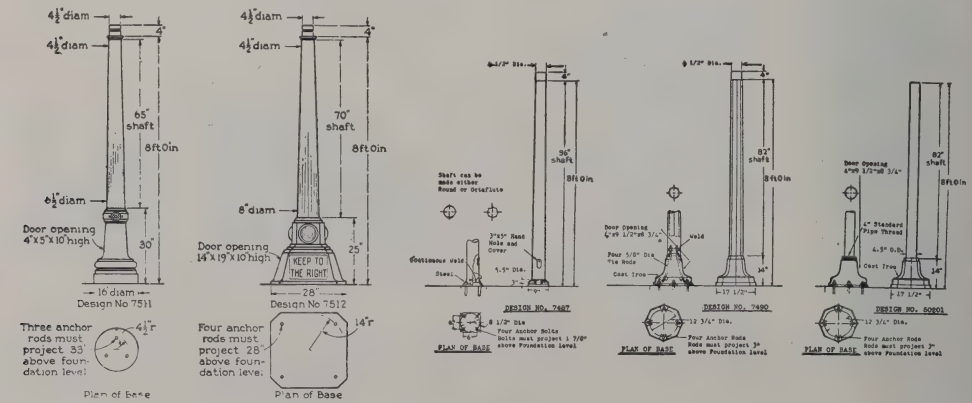


UNION METAL TRAFFIC-SIGNAL POLES

Traffic-signal poles are available in a variety of designs constructed of steel or cast iron. One may be chosen which matches or harmonizes with local lighting standards. These poles can have a 4½-inch-diameter tenon top to accommodate a slip-fitter type of signal or have a pipe-nipple mounting.



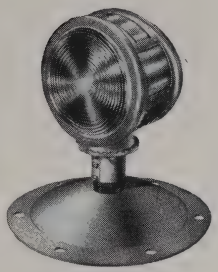




G-E AIRPORT LIGHTING

High-intensity Runway Marker Lights

The accepted high-intensity fixture for use in coordinated landing aid systems. Used in conjunction with instrument landing system, ground controlled approach, and high-intensity approach lighting. Fully approved by CAA as conforming to Spec. L-819, "Fixed Focus Bi-directional High-intensity Runway Light," wide-beam type. Actually exceeds all requirements of L-819 and U.S. Air Forces Spec. 32597 for high-intensity fixtures.



High-intensity runway marker mounted on domed base cover

Provides utmost safety because of extreme light weight and compactness. Easy to maintain because of simple heat-resistant glass refractor lens system (not a doublet lens) and single 200-watt series lamp. Constant light output maintained with series runway circuit. No moving part or complicated circuiting. Full off-runway indication provided with transparent side panels. Conversion to high-intensity lighting of runways originally having installations of medium-intensity fixtures mounted on shallow bases is easily accomplished by use of domed baseplate.

Cat. No.	Net Price	Approx Wt, Lb (Less Base)	
		Net	Ship.
1739–F1*	**$44.00**	7	10

* Specify color of lenses, whether clear, yellow, or green.

1. Lamp not included in Cat. No. Each fixture uses one 200-watt, 6.6-ampere, medium prefocus lamp, Cat. No. 6.6AT14P, to be ordered separately.
2. Assembly includes domed base cover for AN-2509 deep base, AN-2513 shallow base, or for base built to CAA Spec. L-809.
3. Prices do not include bases.
4. Cat. No. includes cable assembly ("tennis ball" connector and lead to Type IL secondary).
5. Transformers not included in above prices.

Medium-intensity Runway and Taxiway Marker Lights

CAA approved — The American Gas Accumulator medium-intensity, elevated-runway strip and taxiway marker lights are designed and produced to meet CAA specifications L-802 and are approved by CAA.

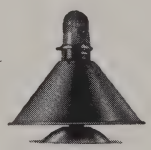
Operational safety — The elevated light is mounted low to the ground with an over-all height of less than 18 inches. The fixture is easily tipped over if struck. It is therefore not a hazardous obstruction to light aircraft or to low-slung military aircraft.

Saves on maintenance cost — Access to the elevated marker light, which is above grass, ground dirt, surface water, snow, and ice, is exceptionally easy. Only a few minutes are required for servicing because the handy, flexible clamping ring allows quick removal of the lens, replacement of the lamp, and reassembly even under icing conditions. There are no reflectors to be cleaned.

Major improvements over flush-type fixtures — Elevated lights are free from the common faults of the flush-type lights. They provide higher visibility through more efficient utilization of light. Flush-type units, on the other hand, not only are lower in output but are easily obscured by grass, dirt, and snow. Elevated lights are free from the electrical troubles of flush-type units. They put an end to the common problem of water seeping into the bases and shorting out the electrical contacts. In snow countries, they eliminate the losses as caused by the snow plows raking the tops off the flush fixtures; elevated lights are off the runway and high enough to be seen.

Excellent light distribution — The light distribution of the runway markers exceeds the requirements of CAA specifications L-802. The high efficiency lens distributes the light in two major beams up and down the runway. Vertically the light beams go upward at a low angle to provide visibility to the incoming pilot. The *maximum candle-power is several times that of the flush-type fixtures* that were formerly used for medium intensity runway lighting.

Low voltage above ground (7 volts) — A Type IL insulating transformer is used with every fixture. Column-mounted fixtures use a direct-burial-type transformer with molded-rubber connectors on both primary and secondary.



Base-mounted fixture

Column-mounted fixture

Cat. No.	Lens or Globe	Net Price, Each
Column-mounted Fixture		
1833–A1C	Clear Lens	**$21.00**
1833–A1B†	Blue Lens (asymmetrical distribution)	**21.00**
1833–A1G	Green Lens	**21.00**
1833–C1B*	Blue Lens (symmetrical distribution)	**21.00**
Base-mounted Fixture (With Domed Base Cover)		
1833–B1C	Clear Lens	**$32.00**
1833–B1B†	Blue Lens (asymmetrical distribution)	**32.00**
1833–B1G	Green Lens	**32.00**
1833–D1B*	Blue Globe (symmetrical distribution)	**32.00**

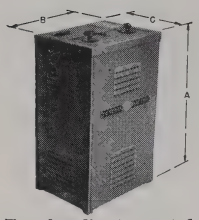
† Not covered by CAA Spec.

* Approved under CAA Spec. L-822.

1. Lamps not included in Cat. No. Use 30-watt lamp Cat. 6.6A/T10/1P for clear or green lens, or 45-watt lamp Cat. 6.6A/T10/P for blue lens or globe. Order separately.
2. Fixture prices do not include Type IL transformers.
3. Domed base-cover is designed to fit Type AN2509 deep base, Type AN-2513 shallow base, and base per CAA Spec. L-809.
4. All fixtures are equipped with 2-conductor leads and molded connectors for above-ground disconnect. (See Fig. 1A of CAA Spec. L-823)
5. Cat. No. for base-mounted fixtures include cable assembly ["tennis ball" connector (Fig. 1C of CAA Spec. L-823) and lead to Type IL secondary].

G-E AIRPORT LIGHTING CONTOL EQUIPMENT

Static-core Constant Current Regulators



Four-kw direct-operated static-core regulator

Low in initial cost, easily installed and maintained control equipment for medium-intensity airport-, runway-, and taxiway-lighting installations. Air-cooled construction for indoor installation. Precise, instantaneous regulation of current for all load conditions. Series circuit fully protected against open circuits. Used as component of General Electric 600-volt airport-lighting systems.

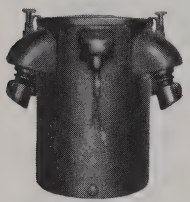
Rating	Application	Operation	Cat. No.	Net Price	Wt, in Lb.		Dimensions		
					Net	Ship.	A	B	C
4 kw	Runway	Direct	3270064*	**$858.00**	389	463	35¼	20⅜	16¾
4 kw	Runway	Remote	3270096†	**858.00**	389	463	33¾	20⅜	16¾
4 kw	Taxiway	Remote	3270093‡	**666.00**	350	420	33¾	20⅜	16¾

* Approved by CAA as being in accordance with CAA Spec. L-811 for direct operation; has manual switches for selection of one of three runways and selection of brightness (10, 30, 100%). Contains primary control switch with overload protection and four auxiliary single-pole 15-ampere circuit breakers for control of multiple circuits such as wind cones, beacons, etc. Internally wired to require only one source of primary power.

† Conforms to CAA Spec. L-812 for remote operation; includes electrically operated primary contactor and three relays for selection of brightness (10, 30, 100%). Requires remote control panel similar to Type AN-P-59a, I or II.

‡ Conforms to CAA Spec. L-813 for remote operation of taxiway lights; requires remote control panel or operating switch. No selection of taxiway or intensity included.

Primary Controllers, Type E-1-F



Type E-1-F

For primary circuit control of airport-runway lighting systems, the Type E-1-F controller has a rated maximum-interrupting voltage of 7620 volts and 8.66-kv insulation. It meets the requirements for apparatus to be used on circuits up to 5000 volts within current rating regardless of whether the 5000 volts are phase-to-phase, phase-to-grounded or -ungrounded neutral. For phase-to-phase or phase-to-grounded neutral voltages between 5000 and 7620 volts, the Type E-1-F controller is adequate. In the case of phase-to-ungrounded neutral voltages above 5000 volts, the Type E-1-H controller is recommended in the interest of insulation co-ordination and in order to conform with the standards for the transformers being controlled.

Cat. No.	Net Price, incl Oil	Approx Wt. Lb, incl. Oil	
		Net	Ship.
5360354FB2	**$190.00**	182	266

DPST contacts, normally open when coil de-energized, will interrupt 50 amperes at 2500 volts.

Standard operating coil furnished for multiple operation at 120 volts, 60 cycles. Inrush current: 8.8 amps; holding current: 3.3 amps.

50- or 25-cycle multiple operating coils furnished at standard price. For operating coils of other than standard voltage, current, or frequencies, refer to your distributor.

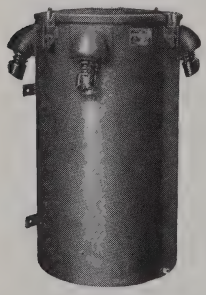
No hanger hooks required.

For subway or aerial-type controllers, or where primary voltage exceeds 2.5 kv, refer to your distributor.

Constant-current Transformers, Type RO

The popular current-regulating transformer for series airport runway lighting circuits. For outdoor or vault installation. Oil-cooled. Simple, sturdy, hinged-coil mechanism features: (a) exceptionally fine control of current; (b) low starting surge within proper limits; (c) instant compensations for even very small changes of load or applied voltage; (d) proper operation with any type of load; (e) completely dependable operation, mechanically and electrically.

The Type ROC transformer, with an integral assembly of capacitors, is also available. This unit is recommended for long or heavily loaded distribution feeders where it is desirable to limit voltage drop or losses through minimum kva demand.



Outdoor type

Kw Rating	Transformers* Cat. No. 6.6-amp Secondary	Cat. No. 20-amp Secondary	Net Price	Approx Wt, Lb. (less Oil) Ship.	Approx Wt, Lb. (less Oil) Net	No. 10-C Oil Gals required	Approx Wt, Lb. Ship.	Approx Wt, Lb. Net
Outdoor Type — 2400 Volts, 60 Cycles Primary								
7.5	3201455	3201455AC	**$550.00**	510	420	40	360	300
10	3201456	3201456AD	**609.00**	560	470	40	360	300
15	3201457	3201457AF	**696.00**	745	630	65	585	485
20	3201458	3201458AF	**795.00**	830	715	65	585	485
25	3201459	3201459AG	**928.00**	1105	965	85	765	635
30	3201460	3201460AG	**1028.00**	1340	1200	90	810	670
Subway Type — 2400 Volts, 60 Cycles Primary								
7.5	3272235	3272235AD	**984.00**	710	615	45	400	335
10	3272236	3272236AD	**1061.00**	800	705	45	400	335
15	3272237	3272237AD	**1149.00**	900	790	75	675	560
20	3272238	3272238AD	**1248.00**	1010	900	75	675	560
25	3272239	3272239AD	**1347.00**	1330	1165	102	925	760
30	3272240	3272240AD	**1446.00**	1460	1295	97	875	725

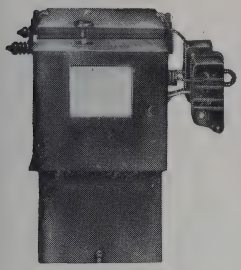
1. Different primary voltage, at 60 cycles, between 2001 and 2890, between 2891 and 5000, between 5001 and 8660, between 8661 and 13,200, and for any other voltage rating—price on application.
2. For 25, 30, 40, or 50 cycles—price on application.
3. Primary tap for 10 per cent subnormal voltage included in transformer with single voltage rating. For each additional tap—price on application. No taps included for split-voltage ratings—price on application.

*4. 7.5-ampere current rating—no price addition. Double-rated secondary—price on application.

5. Oil included in price and catalog number. Shipped separately. For omission, price deduction on application.

G-E AIRPORT LIGHTING CONTOL EQUIPMENT

Brightness-control Assembly



15–20–25 kw type

This assembly, with oil-immersed transformer, tap-selector and protector assembly, controls lamp brightness in high-intensity runway installations. Operator can select brightness suitable for weather condition; full brilliance and utmost penetration for poor visibility; 25–5–1–0.2 per cent brightness for night landings in clearer weather. For operation with G-E 15-, 20-, or 25-kw, 6.6-ampere, 60-cycle, constant-current transformers listed previously. Manufactured in accordance with CAA Specification L-826.

1. **Open-circuit protective relay, porcelain-enclosed disconnecting cutouts, and oil included with price.**
2. **Tap selection can be accomplished under load by using a five-position rotary snap switch. The switch can be mounted on the Type II control panel.**

Rating	Cat. No.	Net Price Incl Oil	Output Currents	Approx Wt, Lb Incl Oil	
				Net	Ship.
15–20–25 kva, 60 cycles	3270095	**$1320.00**	6.6/5.2/4.1/3.4/2.8 amp	390	440

Runway Selectors — Air Break

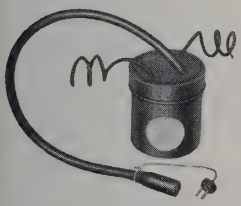
Single-circuit selector

For selective economical operation from single power source of any one of several runway lighting circuits. Illumination of correct runway for safest landing condiiton is at complete discretion of control tower operator. Installation economy results from elimination of requirement for separate supply for each runway. For remote operation with General Electric constant-current assemblies.

Kva Rating	Cat. No.	Net Price, Ea.	Runway Circuit Current	Approx Wt, Lb	
				Net	Ship.
Three-runway Circuit Selector, Air-break					
4–10	3278125	**$330.00**	6.6 amps	80	90
Single-runway Circuit Selector, Air-break					
4–10	3278126	**$123.00**	6.6 amps	35	40

1. In accordance with CAA Spec. L-816 for use with 4-kw remotely operated static-core constant-current regulator.
2. Contacts designed for switching under load only when used with the 4-kw regulator. Above 4-kw, normal switching must be under "no-load" conditions.
3. A single porcelain Type S-1 disconnecting cutout is provided for each runway circuit.
4. Contacts are arranged to short-circuit (1st) and disconnect (2nd) runways not in use for utmost safety.
5. Enclosure designed for rack or wall mounting in doors or in dry vault.
6. For remote operation from runway selector switch on AN-P-59a remote panel.

Isolating Transformers, Type IL



Type IL transformer with primary pigtails and molded secondary connector

Series-to-series single-lamp isolating transformers. Isolate lamp and fixture from high-voltage circuit; insure continuity of service on lamp burnout; permit use of high-current, concentrated light source, and series lamp; and eliminate need for film cutout.

Watts Lamp Rating	Primary and Secondary Current Amps	Rated Voltage	Cat. No.	Net Price	Wt, Lb	
					Net	Ship.
For Direct Burial						
30/45	6.6–6.6	600	3275676*	**$18.70**	7	9
100	6.6–6.6	600	3275678†	**21.20**	7	9
For Installation in Cast-iron Base ϕ						
30/45	6.6–6.6	3000	3275677‡	**21.00**	10	12
200	6.6–6.6	5000	3275854§	**35.75**	25	28
500	20–6.6	5000	3275680¶	**61.75**	—	—

* For use on runways where cable is already installed, or where primary molded connectors are not used.

† Used to operate a 100-watt, 6.6-ampere series obstruction light load consisting of one 1020-lumen lamp and 50 to 150 feet of two-conductor cable.

‡ For use with 600- to 3000-volt installations for medium intensity runway lighting systems. Approved and in accordance with CAA Spec. L-804.

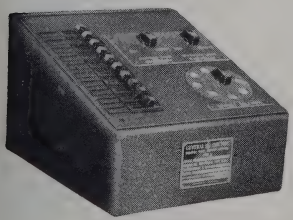
§ For use with installations of high-intensity fixtures where constant-current regulator has a maximum capacity of 25 kva. In accordance with CAA Spec. L-806.

¶ For use with installations of high-intensity fixtures where constant-current regulators have a maximum capacity of 80 kva.

ϕ Furnished with waterproof gland bushings for synthetic cable. Connection to primary and secondary made with crimp-type pin jack connectors.

Cat. No. 3275676 can be furnished with molded primary and secondary connectors if desired. Such a unit has been approved by the Civil Aeronautics Administration as being in accordance with CAA Spec. L-803.

Type II Control Panel



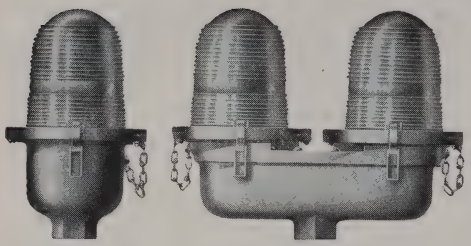
Type II control panel

The Type II panel provides simple and convenient remote control of high- and medium-intensity fixtures and auxiliary equipment from a small panel in the control tower. The panel permits high-intensity brightness control switching under load. High-speed switching thus obtained prevents the runway lights from turning off while brightness-selector taps are changed, which is an added safety feature in aiding the pilot to land in inclement weather.

Cat. No.	Net Price	Approx Wt, Lb	
		Net	Ship.
3270140	**$347.00**	40	45

G-E AIRPORT LIGHTING AUXILIARY EQUIPMENT

Obstruction Marker Lights



Single fixture Double fixture

Manufactured in strict conformance with CAA specification L-810.

Lens is mounted in retainer ring from which it need not be removed for relamping. Lens-ring assembly is attached to base with short chain so it cannot fall during relamping or cleaning; when removed, socket is accessible for easy wiring.

Two toggle latches hold lens-ring assembly firmly against a gasket on the base. Sturdy, lightweight, die-cast aluminum housing is painted international orange.

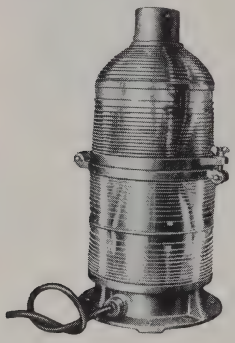
Both the single and double lights are provided with tapped openings for mounting on one-inch conduit. Base of double obstruction light is large enough to hold an automatic switching device.

Obstruction lights which meet Aeronautical Specification AN-L-10a are also available.

Description	Cat. No.	Net Price, Each
Single Fixture		
Series Type	1835-A1R	**$7.75**
Multiple Type	1835-B1R	**7.50**
Double Fixture		
Series Type	1836-A1R	**15.00**
Multiple Type	1836-B1R	**14.50**

1. Lamp not included in Cat. No.

Flashing Beacons



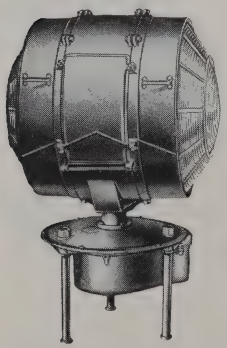
Type FCB-12 flashing beacon

The Type FCB-12, 300-mm flashing beacon is for airport identification and hazard marking. Base, frame, and top of the unit is made of cast-aluminum alloy. A hinged frame is provided between the upper and lower lens assemblies, allowing the beacon to be opened at the middle for relamping. The optical assembly consists of four Fresnel pyrex lenses. Two lamps are used, one operating base up and the other base down. The lamp receptacles are mogul prefocus for either two 500-watt, PS-40, 115-volt lamps or two 200-watt, PS-30, 115-volt lamps.

Description	Cat. No.	Net Price, Each*
500 Watt—Clear Lens	41252C	**$165.00**
500 Watt—Red Lens	41257C	**190.00**
500 Watt—Green Lens	41258C	**190.00**
200 Watt—Clear Lens	42196C	**165.00**
200 Watt—Red Lens	42197C	**190.00**
200 Watt—Green Lens	42198C	**190.00**

*Prices do not include lamps.

Rotating Beacons



Type DCB rotating beacon

The Type DCB36 rotating beacon is the standard large airport beacon, and is approved by CAA. The optical system consists of a lens combination in each end of the housing, with a single lamp in the center. Each combination has an 18-inch inner doublet lens and a 36-inch outer lens. For airport use, one inner doublet lens is clear and one green, while both outer lenses are clear. The beacon is for use on 115-volt, 60-cycle circuits, and rotates at 6 rpm. It is furnished with (1) a magnetic lamp changer which automatically throws into focus and connects to a power source a spare lamp upon the failure of the first lamp; (2) a telltale-lamp circuit which energizes a red indicating light at a remote point when the normal operating lamp burns out and the spare lamp is put into operation; (3) a 1/6 horsepower driving motor; and (4) a beacon base with adjustable legs for leveling. The beacon takes a 1000-watt, 115-volt, T-20 bulb, mogul bipost-base aviation beacon lamp.

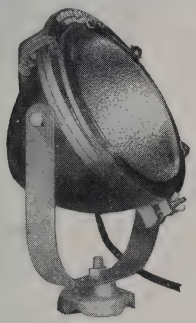
Description	Cat. No.	Net Price, Each
DCB36 Rotating beacon	41281B	**$1430.00**

G-E HEAVY-DUTY FLOODLIGHTS

TYPE L-38

A heavy-duty floodlight with cast-aluminum casing and door. High-efficiency, long-life reflector, either silvered-glass or *Alzak processed aluminum. Heat- and weather-resisting molded glass sealed with waterproof asbestos gaskets.

Suitable for rough-service applications—such as on power shovels. A variety of beam spreads and mountings adapt it to all common situations.



Type L-38-D, for general-service lamp, 200/250 watts

Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-38-D, for General-service Lamp (PS-30)				
Silvered-glass	A48G82	**$53.00**	22	13
*Alzak finished aluminum	A48G83			
Type L-38-E, for Floodlighting-service Lamp (G-30)				
Silvered-glass	A48G84	**$53.00**	22	13
*Alzak finished aluminum	A48G85			

1. Lamp is not included in Cat. No. 300-watt, medium-base, 6-in. L. C. lamp can also be used.
2. Plain door glass is furnished, unless otherwise specified.

   The following types are available at no additional charge:

   Lightly stippled, Heavily stippled, Spread light } Used to widen light beam.

   If colored glass is desired, refer to your Distributor.

TYPE L-84

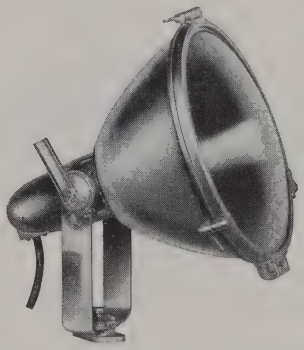
A lightweight heavy-duty floodlight having a hinged door for long life and easy servicing. Designed for higher efficiency through addition of an auxiliary reflector of *Alzak finished aluminum. Available with either narrow-beam polished or wide-beam etched reflectors. Three mountings, including a portable base, will meet all common requirements.

*Manufactured under Aluminum Company of America patents.

Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-84 for 500-watt G-E General-service Lamp				
Polished *Alzak finished aluminum	A74G1	**$84.00**	16½	14
Etched *Alzak finished aluminum	A74G2	**78.00**	16½	14
Type L-84 for 500-watt G-E Floodlight Lamp				
Polished *Alzak finished aluminum	A74G3	**$84.00**	16½	14

1. Lamp not included in Cat. No.
2. Plain door glass is furnished, unless otherwise specified. The following types are available at no additional charge:

   Heavily stippled, Lightly stippled, Spread light, Asymmetric } Used with polished reflector to widen light beam. Refer to photometric data.
3. Colored door glasses not available. Use Type L-85 when colored glass is needed.
4. Slip-fitter and pipe-clamp mountings listed below will be furnished at no additional charge when specified.



Typical of Type L-84 (for 300/500-watt) and Type L-85 (for 750/1000-watt) general-service or floodlighting lamps

TYPE L-85

A lightweight heavy-duty floodlight having a hinged door for long life and easy servicing. Designed for higher efficiency through addition of an auxiliary reflector of Alzak* finished aluminum. Available with either narrow-beam polished or wide-beam etched reflectors. Three mountings, including a portable base, will meet all common requirements.

Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-85 for 1000-watt G-E General-service Lamp				
Polished *Alzak finished aluminum	A75G1	**$105.00**	21½	17½
Etched *Alzak finished aluminum	A75G2	**98.00**	21½	17½
Type L-85 for 1000-watt G-E Floodlight Lamp				
Polished *Alzak finished aluminum	A75G3	**$105.00**	21½	17½

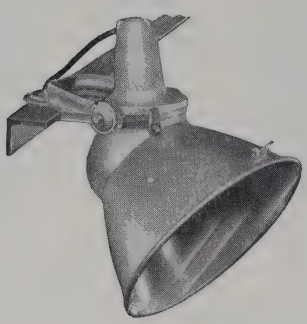
1. Lamp not included in Cat. No.
2. Plain door glass is furnished, unless otherwise specified. The following types are available at no additional charge:

   Heavily stippled, Lightly stippled, Spread light } Used with polished reflector to widen light beam. Refer to photometric data.
3. If colored glass is desired, add **$16.10 list.** Red, blue, and green are restricted to 500 watts. ¶Amber is restricted to 750 watts.
4. Slip-fitter and pipe-clamp mountings will be furnished at no additional charge when specified.

   ¶When these colors are desired, order floodlight socket arranged for 500-watt, 7-inch light-center lamp.

G-E SPORTS AND AREA FLOODLIGHTS

TYPE L-69



Type L-69 floodlight for crossarm mounting, 1500 watts

An outstanding floodlight for sports-field and recreation areas incorporating every worthwhile feature, from the results of long engineering experience. The floodlight features a front glass made of impact-resisting Tufflex tempered plate glass, spun-sealed into the reflector. The socket housing is removable for replacing lamp and cleaning reflector. Die-cast aluminum construction makes the housing lighter and easier to handle than any front-door assembly. The reflector is made of *Alzak processed aluminum, either polished or etched, giving this floodlight ideal light control and outstanding beam efficiency. The floodlight is completely sealed to keep out water, dirt, and insects. 1500-watt general-service lamp.

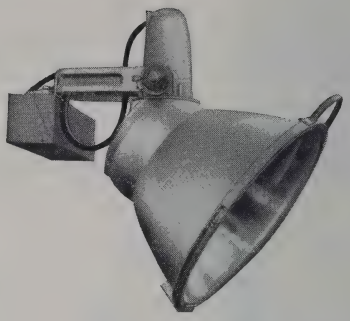
Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Medium beam (polished)..	A54G7	**$63.00**	29	18½
Wide beam (etched).....	A54G17	**59.00**	29	18½
Narrow beam (polished)....	A54G9	**74.00**	29	18½

Lamp not included in Cat. No.; use 1500-watt general-service lamp PS-52 clear bulb, 9½-in. light-center length.

TYPE L-68

A popular floodlight for ground areas, notably sports fields and construction projects, where high-candlepower beams will help reach across the area, or where the maintenance savings of an enclosed unit are desired. Features a heat- and weather-resisting molded plain glass mounted in a slide-on door with a large handle and safety chain, for easy servicing. Reflector is made of *Alzak processed aluminum, either polished or etched, to widen the light beam. Die-cast aluminum socket housing with heavy-duty porcelain-shell mogul socket keeps lamp in fixed focus. A medium-stippled door glass is available. Uses general-service lamp. Also available as open unit.

*Manufactured under Aluminum Company of America patents.



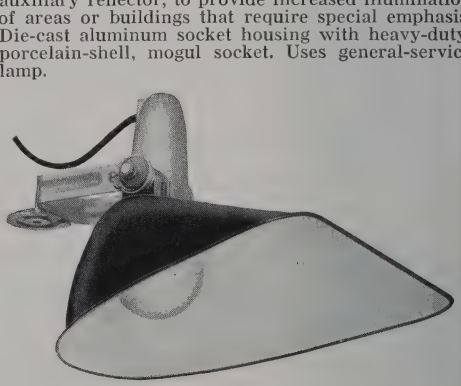
Type L-68 floodlight for crossarm mounting, 750/1500 watts

Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-68, Enclosed, for Crossarm Mounting				
Polished *Alzak finished aluminum.....	A52G33	**$63.00**	26	14
Etched *Alzak finished aluminum.....	A52G23	**59.00**	26	14

1. Lamp is not included in Cat. No.
2. Plain door glass is furnished, unless otherwise specified. A medium-stippled type is available at no additional charge. It is used with either polished or etched reflector, to widen the light beam.
3. For omission of door glass and ring, deduct **$18.50 list.**

TYPE L-46

A durable open floodlight for close-range illumination of filling stations, and work, storage, parking, and sports areas. This floodlight has a porcelain-enameled reflector. It may be equipped with an auxiliary reflector, to provide increased illumination of areas or buildings that require special emphasis. Die-cast aluminum socket housing with heavy-duty, porcelain-shell, mogul socket. Uses general-service lamp.



Type L-46 floodlight for crossarm mounting for 300/1500 watts

G-E SPORTS AND AREA FLOODLIGHTS

TYPE L-46 (Continued)

Type of Auxiliary Reflector Included	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-46, Crossarm Mounting; 750/1500 Watts△				
None	A43G13	**$35.00**	30	21
Etched *Alzak finished aluminum	A43G23	**36.00**		
Polished *Alzak finished aluminum	A43G33	**38.00**		

1. Lamp not included in Cat. No.

△2. For use with 300- or 500-watt lamp, order similar to above Cat. No., and deduct **$1.25** list.

3. Floodlight supplied only with crossarm mounting which fits all other mountings.

TYPE L-45

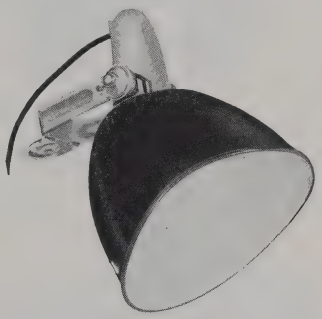
An inexpensive, durable, open floodlight with porcelain-enameled reflector, for close-range illumination of filling stations, and work, storage, parking, and sports areas. Auxiliary *Alzak processed aluminum reflectors provide increased illumination of areas or buildings that require special emphasis. Construction similar to Type L-46 floodlight.

Type of Auxiliary Reflector Included	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-45, Crossarm Mounting; 750/1500 Watts△				
None	A41G13	**$26.00**	26	17
Etched *Alzak finished aluminum	A41G23	**28.00**		
Polished *Alzak finished aluminum	A41G33	**29.60**		

1. Lamp not included in Cat. No.

△2 For use with 300- or 500- watt lamp, order similar to above Cat. No., and deduct **$1.25** list.

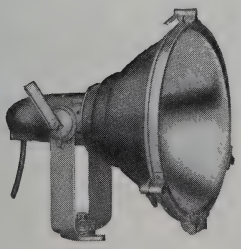
3. Floodlight supplied only with crossarm mounting which fits all other mountings.



Type L-45 floodlight for crossarm mounting. 300/1500 watts

G-E GENERAL-PURPOSE FLOODLIGHTS

TYPE L-82



Type L-82 floodlight with flat base 300/500 watts

A lightweight general-purpose floodlight having a hinged door for long life and easy servicing. Designed for higher efficiency, through addition of an auxiliary reflector of *Alzak finished aluminum. Available with either narrow-beam polished or wide-beam etched reflectors. Three mountings, including a portable base, will meet all common requirements.

*Manufactured under Aluminum Company of America patents.

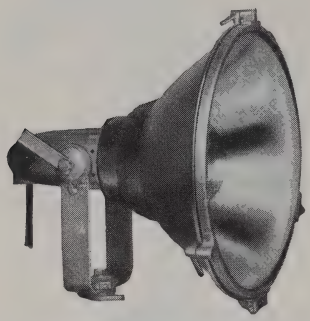
Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-82 for 500-watt G-E General-service Lamp				
Polished *Alzak finished aluminum	A72G1	**$48.00**	16	13½
Etched *Alzak finished aluminum	A72G2	**42.00**	16	13½
Type L-82 for 500-watt G-E Floodlight Lamp				
Polished *Alzak finished aluminum	A72G3	**$48.00**	16	13½

1. Lamp not included in Cat. No.
2. For prices of mountings, refer to your Distributor.
3. Plain door glass is furnished, unless otherwise specified.
   The following types are available at no additional charge.
   Heavily stippled
   Lightly stippled
   Spread light
   Asymetric glass, if desired.
   Colored glass is not available.
4. For omission of door assembly, deduct **$17.30.**

G-E GENERAL-PURPOSE FLOODLIGHTS

TYPE L-83

A lightweight floodlight for general application. Similar to the Type L-82 floodlight, except larger in size and uses larger lamp.



Type L-83 floodlight, 750/1000 watts

Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-83 for 1000-watt G-E General-service Lamp				
Polished *Alzak finished aluminum	A73G1	**$58.00**	19	15
Etched *Alzak finished aluminum	A73G2	**51.00**	19	15
Type L-83 for 1000-watt G-E Floodlight Lamp				
Polished *Alzak finished aluminum	A73G3	**$58.00**	19	15

1. Lamp not included in Cat. No.
2. For prices of mountings, refer to your Distributor.
3. Plain door glass is furnished, unless otherwise specified. The following types are available at no additional charge.
   Lightly stippled
   Heavily stippled
   Spread light.
   If colored glass is desired, add **$16.10** list.
4. For omission of door assembly, deduct **$22.40** list.

G-E HANDY FLOODLIGHTS

TYPE L-65

Type L-65 handy floodlight, 100 watts

A handy floodlight with wide-angle beam, for lighting around homes, gardens, garages, farm buildings, etc., offering convenience, protection and aid to work or business at night. Low-cost, durable, and compact, and has a large variety of uses. Reflector is constructed of one-piece die-formed aluminum etched on the inside. Weather-resisting molded door plain glass held in place by a snap band.

Type	Type of Reflector	Cat. No.	Price	Standard Package		
				Qty	Ap Wt, Lb Ship.	Net
L-65	Wide-beam etched-surface aluminum	A168G1	**$4.45** each	6	16	10½

1. Lamp not included in Cat. No.

*Manufactured under Aluminum Company of America patents.

TYPE L-66

Type L-66 handy floodlight, 200/300 watts

For work lighting or protective lighting around substations, home and farm buildings, construction jobs—either temporary or permanent. Powerful wide-angle beam illuminates a large area. Inexpensive, durable, thoroughly practical for general use. Reflector constructed of die-formed aluminum with etched inner surface. Heat- and weather-resisting molded clear glass held in place by U-shaped clamping band with gasket. A 300-watt medium base general-service lamp can be used in intermittent service.

	Type of Reflector	Cat. No.	List Price, Each	Approx	
				Ship.	Net
L-66	Wide-beam etched-surface aluminum	A175G4	**$15.50**	7	4

1. Lamp not included in Cat. No.
2. For omission of door glass and ring, deduct **$4.90** from list price of floodlight.
3. Red, amber, blue, or green door glass furnished in place of clear at **$4..90** list, additional.
4. Renewal door glass, plain clear, 9½-in. diameter, Cat. No. 4815510G1. List Price, **$3.30** each.

G-E HANDY FLOODLIGHTS

TYPE L-65P
150 Watts

The Handy floodlight's brother—the L-65P—a holder for the par 38 projector spot or flood lamps. Made with the same precision and consisting essentially of the same parts—this inexpensive, durable, and compact holder is a worthy running mate for the famous mighty midget Handy.

Type	Cat. No.	Price	Qty.	†Standard Package Approx Wt, in Lb	
				Ship.	Net
L-65P	A168G5	**$3.25**	10	10	8

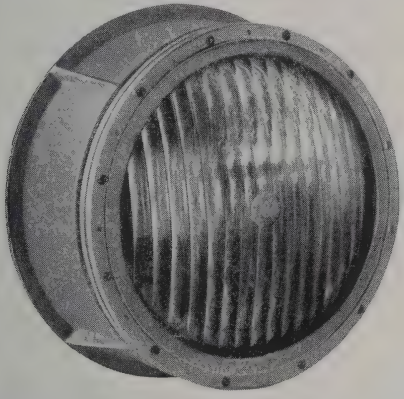
Lamp not included in Cat. No.
†Sold in standard packages of 10.

G-E UNDERWATER FLOODLIGHTS

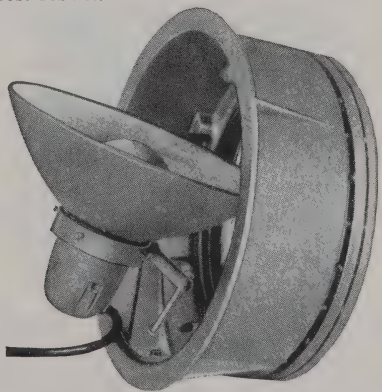
TYPE L-39

This high-quality *dry-niche* underwater floodlight is used principally in swimming pools. It offers high efficiency, a variety of beam angles, easy maintenance, and long life. *Cast-bronze construction is especially recommended* for best results and should be used to prevent deterioration in chemically treated water. Strong, durable, and easy to install.

Highly efficient silvered-glass, correctly positioned for best results.



Type L-39, underwater floodlight, 500/1000 watts



Type L-39, rear view, showing reflector in position for servicing

Type of Reflector	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
†Type L-39, Complete Floodlight—Bronze				
DOOR RING WITH CHROME-PLATED FINISH Silvered-glass.....	A47G5	**$192.00**	140	77

†Spread-light door glass furnished, unless otherwise specified.

Equipment above consists of:

Above Cat. No.	Door Assembly			Niche Lining			Projector with Support		
	Cat. No.	List Price, Each	Ship. Wt, Lb	Cat. No.	List Price, Each	Ship. Wt, Lb	Cat. No.	List Price, Each	Ship. Wt, Lb
A47G5	A66G30	**$93.00**	30	A66G31	**$62.00**	56	A66G32	**$37.00**	55

1. Floodlight furnished with socket positioned for use with 1000-watt lamp unless otherwise specified.
2. Lamp not included. Use floodlight lamp only. 500/1000 watts.

G-E UNDERWATER FLOODLIGHTS

TYPE L-33

A cast-bronze, watertight floodlight used principally in fountains and swimming pools, offering high efficiency and long life, a variety of beam angles, clear or colored lighting effects, and assurance against deterioration in chemically treated or salt water. Also recommended for general floodlighting in atmosphere too wet for ordinary weatherproof units, or where vaporproof equipment is needed.

Type L-33, with angle brackets, 100/250/400 watts

Heavy bronze casing and door rings, and highly efficient silvered-glass reflector.

Type of Reflector	Model No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-33* with Angle Brackets				
Silvered-glass	2AL33FDL1	**$130.00**	45	37
Type L-33* with Suspension Hooks and Arms				
Silvered-glass	2AL33FDK1‡	**$142.00**	45	37
Type L-33* for Conduit Support (no brackets)				
Silvered-glass	2AL33FDX1	**$124.00**	45	37

*1. Lamp not included in Cat. No. Use floodlight service lamp only: 250/400 watts submerged, 100 watts in air

2. *Be sure to specify type of door glass when ordering.* Price includes plain, heavily stippled, or spread-light clear glass.

3. Colored door glass furnished instead of clear glass at **$3.70** list additional. Plain or heavily stippled pattern only—not spread-light. Colors available—red, amber, green, or blue.

‡ 15-ft, 3-conductor cable furnished with this model.

TYPE L-41

The Type L-41 construction and use is similar to the Type L-33. The Type L-41 is larger in size and uses a larger lamp, giving more light.

Type L-41, with oval base and trunnion bracket, 500/1000/1500 watts

Type of Reflector	Model No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Type L-41* with Oval Base and Trunnion Bracket				
Silvered-glass	2AL41AAK1	**$260.00**	113	68
Type L-41* with Suspension Hooks and Arms				
Silvered-glass	2AL41EAK1‡	**$247.00**	113	68

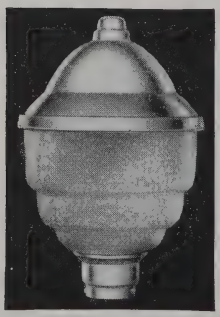
*1. Lamp not included in Cat. No. Use floodlight-service lamp only: 500/1000/1500 watts submerged, 500 watts in air.

2. *Be sure to specify type of door glass when ordering.* Price includes plain, heavily stippled, or spreadlight clear glass.

3. Colored door glass furnished instead of clear glass at **$16.10** list additional. Plain or heavily stippled pattern only—not spreadlight. Colors available—red, amber, green, or blue.

‡ 15-ft, 3-conductor cable furnished with this model.

G-E LUMINAIRE FOR GASOLINE-PUMP ISLANDS



Form 92, 300/500 watts

An attractive enclosed-type luminaire for lighting gasoline-pump islands and surrounding areas. Fits 2-in. pipe. Easily installable, offering even distribution of light without objectional glare. Reflector constructed of *Alzak processed aluminum which snugly fits over strong crystal-clear rippled glass globe, giving an attractive appearance. Sturdy galvanized cast-iron base, heavy-duty porcelain mogul-base socket.

Description	Cat. No.	List Price, Each	Approx Wt, Lb	
			Ship.	Net
Form 92 Pump-island Light	A100G1	**$23.40**	20	14

Lamp not included in Cat. No. Use 300- or 500- watt mogul-screw-base lamp.

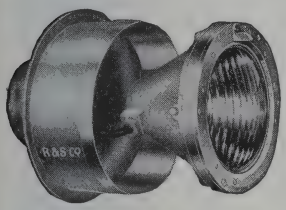
* Manufactured under Aluminum Company of America patents.

R & S UNDERWATER LIGHTING
FOR SWIMMING POOLS

Cast Bronze Equipped with Alzak Aluminum Reflector and Clear Spread Light Lens

To insure against shock due to accidental grounds or short circuit, means are provided for effectively grounding all metal parts.

REMOVABLE WATER-COOLED TYPE



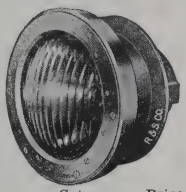
For any pool where it is inconvenient or uneconomical to drain the water for relamping, these adjustable water-cooled units are particularly suitable.

Relamping is accomplished by releasing the surplus cable in the pull box and removing the floodlight unit from the housing in the concrete wall.

Watts	Description	Cat. No.	Price Each
250–400	*Removable Floodlight only	2362	$80.00
1000–1500	*Removable Floodlight only	2398	170.00
250–400	Housing for No. 2362	2362H	35.00
250–400	Housing for No. 2362	2362SH	45.00
1000–1500	Housing for No. 2398	2398H	75.00
----------	Cable Box for No. 2362 or 2398	2363	28.00
----------	Trunion Plates (Set of 2)	2362TP	7.00
----------	Support Bracket	2362B	3.00

*Equipped with 16 ft. of heavy duty cable.

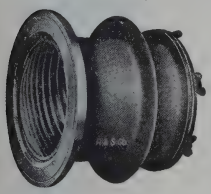
FRONT RELAMPED TYPE



This flood-light is used in pools which are drained frequently or at regular intervals. At such times a burned out lamp may be replaced by the removal of the front bezel.

Watts	Description	Cat. No.	Price Each
250	Floodlight only	2360	$75.00

BACK RELAMPED TYPE



Indoor pools are usually constructed with a passageway or space behind the pool walls. These floodlights are specifically designed for this type of pool construction. To relamp these units the back cover plates are taken off by the removal of the wing nuts.

Watts	Description	Cat. No.	Price Each
250	Floodlight only	2364	$95.00
400	Floodlight only	2365	100.00
1000–1500	Floodlight only	2422	250.00

Lighting location layout for illuminating a particular pool will be prepared without obligation.

Lamps are not furnished with fixtures. Type G "Floodlight Service" lamps should be used.

Conduit and drain connections not furnished. Drawing showing recommended method of installing floodlights furnished with each job.

R & S WATERTIGHT FIXTURES

No. 2303

FOR FOUNTAIN ILLUMINATION

Reflector Type Fountain Light

No. 2303 and 2417 for fountains, small pools and lily ponds. No. 2096 is similar to No. 2303 but made of aluminum for fish ponds.

Description	Cat. No.	Price Each
100 watt, bronze	2303	$25.00
100 watt, aluminum	2096	33.50
150 watt, bronze	2417	40.00

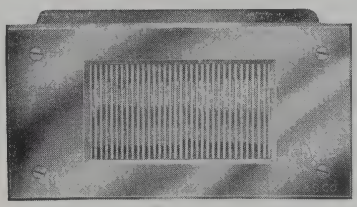
GLOBE TYPE FOUNTAIN LIGHT

No. 2369

The flared lip globe type fountain light is designed for installation in small pools and fountains for general illumination of water.

Watts	Overall Height	Cat. No.	Price Each
25	5¾	2366	$10.00
100	7¾	2367	12.00
150	8⅝	2368	15.00
200	9⅝	2369	18.00

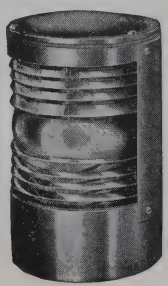
STEP LIGHT FOR LANDSCAPE ILLUMINATION



Designed to illuminate steps, terraces, entrance gates, patios, etc. Bronze construction eliminates corrosion. Arranged for flush mounting and supplied with diffusing glass panels which re-directs the light downwardly. Statuary bronze, standard finish. Other finishes available.

Price, No. **2090** (Max. size lamp, 100-watt)..**$25.00**

CURB LIGHT



For installation along driveways, catwalks and terraces. Equipped with fresnel lens which gives a wide horizontal beam of light, eliminating any tendency of light being thrown upwardly on the surrounding landscape.

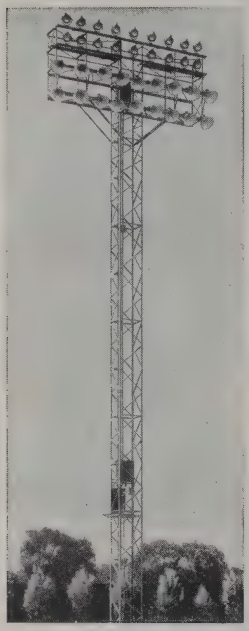
Constructed entirely of cast bronze with all external parts brush bronze finish. Other finishes are available.

Maximum size lamp, 60 watt.

Price, No. **2092**.....each **$20.00**

IDECO STEEL STRUCTURES

Floodlight, Beacon and Power Transmission Towers



FLOODLIGHT TOWERS

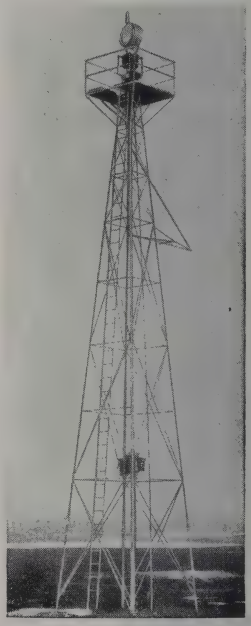
IDECO Floodlight structures have been in use for many years from coast to coast. Designed and constructed by tower building specialists in close cooperation with lighting designers and engineers.

Special care and attention has been given to providing complete accessibility to all lights, fixtures, wiring, etc., for ease of inspection and maintenance.

IDECO Floodlight Towers are self-supporting — no guy wires are needed to secure complete stability. The design of IDECO structures is based on the maximum stresses and wind pressures encountered. Ample provision is made for a wide margin of safety.

A feature of importance to long life and low maintenance is the special IDECO process of hot-dip galvanizing — after fabrication — providing unequalled protection against rust and corrosion.

Standard heights up to 140 feet. Standard light arrangements up to 24 lights. Special designs will be offered to meet any requirement.



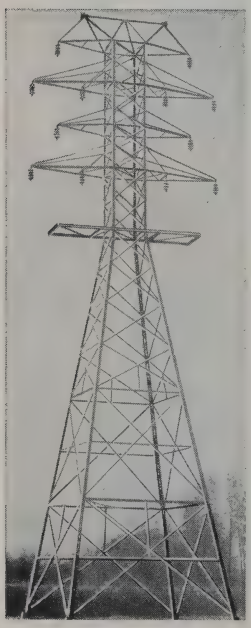
BEACON TOWERS

IDECO, the foremost pioneer in developing steel beacon towers, worked with government engineers in designing the practical and reliable types adopted for government use.

Special attention has been given to providing easy and complete accessibility for servicing the beacon light and its operating mechanism. The stability of IDECO Beacon Towers is achieved without the use of guy wires.

Our special facilities for hot-dip galvanizing after fabrication provides the most durable protection against rust and corrosion.

The preponderance of IDECO Beacon Towers in use today is proof of their superiority.



POWER TRANSMISSION TOWERS

IDECO'S experience in the design and construction of towers and other steel structures for use in power transmission has been long and varied. Our engineers carefully study all the various requirements entering into each job before determining the type of structure required and its application to specific needs.

In addition to standard towers, IDECO makes a specialty of towers for river crossings, wide ravines and other instances of long spans between supports. We are also equipped to design and furnish tower structures for all special purposes in the industrial and public utility fields.

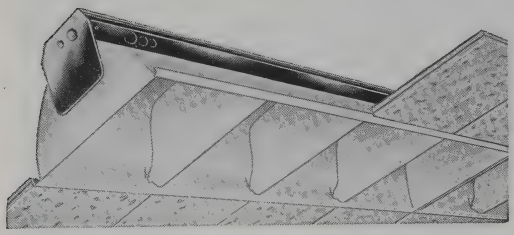
Ease of erection has always been a feature of IDECO Towers. Part numbers are permanently stamped in the members to correspond with the erection drawings furnished with each tower. The hot-dipped galvanized bolts and nuts are hand tested to assure easy turning and tightening.

lighting

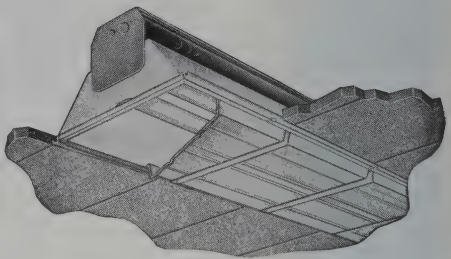
MILLER CONTINUOUS WIREWAY FLUORESCENT TROFFER LIGHTING SYSTEM FOR STORES, OFFICES, SCHOOLS, FACTORIES AND PUBLIC BUILDINGS . . . CEILINGS UNLIMITED*

A Complete Lighting System Offering Unlimited Patterns of Light

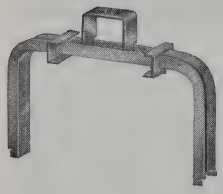
(Pat. Nos. 2,321,099; 2,291,490–1)



Deep Aluminum Troffer



Shallow Steel Troffer



The patented Miller Hanger (Pat. No. 2,463,047) is designed in many types, thus providing complete provision for supporting all types of furred ceilings — metal furring, wood furring, metal lath and plaster furring, or any other furring.

Miller Fluorescent Troffer Lighting Systems may be simply installed as single units, blocks, geometric patterns — or light-strips "by-the-mile." They simplify the entire ceiling installation, including furring, wiring, and enclosure of the recessed lighting system. They also facilitate leveling, and insure dimensional accuracy to a degree hitherto impractical. They reduce needed supports from the structural ceiling by 50% or more . . . a worthwhile economy, as well as an assurance of adequate "above ceiling" space for air conditioning and other use.

In addition, conduit and conduit fitting costs as well as wiring costs are reduced. And the system's permanent operation and maintenance economies are very real.

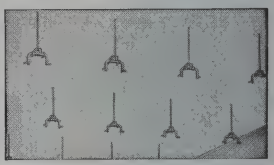
An important installation factor is the patented Miller hanger, which eliminates laborious fitting of lighting into the furred ceiling. The Miller Fluorescent Troffer Lighting System is simply and economically hung from the structural ceiling — and then the furred ceiling may be . . .

1. Suspended entirely from the Miller Hanger
   or
2. Suspended entirely from the Troffer Wiring Channel
   or
3. Suspended from both the Troffer Wiring Channel and the Miller Hanger.

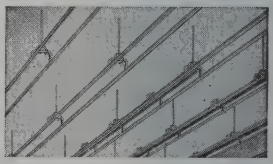
Miller Fluorescent Troffer Lighting Systems may also be recessed in the standard furred ceiling, as has been done in the past. They offer to the designer, architect and contractor, "Ceilings Unlimited.*"

*Reg. Trademark U. S. Pat. Off.

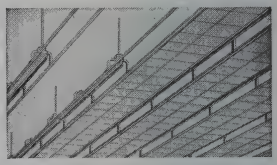
4 SIMPLE STEPS IN INSTALLATION



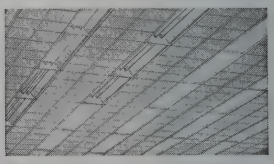
1. One-half inch pendants with Miller Channel Furring Hanger attached are first suspended from the structural ceiling.



2. Furring strips are connected to the hangers.



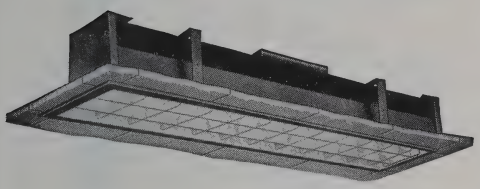
3. Furred ceiling is now easily and safely hung in position.



4. Wiring channels, reflectors and reflector enclosures are now added to complete the job.

FLUORESCENT RECESSED TROFFERS

TWO-SECTION LOUVERED TROFFER



These troffers are of three general types (see below). They are equipped with side and end flanges and are easy to install in any type ceiling including T-Bar construction; however, the T-Bar clips are not used to support the unit.

General Construction Features: Wireway is suspended from "U" shape support brackets which are readily adjustable for thickness of framing and plaster or acoustical material. Reflectors are assembled to wireway with wing nuts and complete unit is drawn up to ceiling with long bolts. Sections can be wired together in lengths convenient for installation and installed as a unit. In general, one wire entrance will be sufficient for the entire run.

Dimensions: Each unit is 48 inches long and fits into a 12-inch slot in the ceiling. This permits alignment of reflectors with acoustical ceiling patterns. Width at bottom over flanges 13¼ inches. Depth above finished ceiling required for recessing 9¼ inches for the 2-lamp units, 10½ inches for the 3-lamp units.

Wired: Furnished wired for 110-115 volt AC circuits with high power factor ballasts. Total watts per 4-ft. section: 95 for 2-lamp units, 143 for 3-lamp units. Less lamps and starters. Bears Underwriters' Recessing Label.

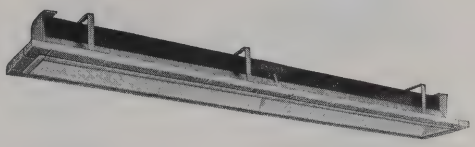
Illumination Data: For locations where minimum luminaire brightness at normal viewing angles is desired specify Curtis Alzak Aluminum Troffers. Brightness of the economy Fluracite Steel Louvered Troffers and the Glass Panel Troffers is moderate and sufficiently low for many applications.

Catalog numbers are for Basic and Extension sections, wired and carton packed complete. Less lamps and starters.

No. of Lamps per Section	Basic Unit Cat. No.	Basic Unit Price Each	Extension Cat. No.	Extension Price Each
Alzak Aluminum Louvered Troffers				
2-40 Watt	1712-C4′	.....	1712-CE4′	.....
3-40 Watt	1713-C4′	.....	1713-CE4′	.....
"Fluracite" Steel Louvered Troffers				
2-40 Watt	1722-C4′	$44.00	1722-CE4′	$40.40
3-40 Watt	1723-C4′	52.60	1723-CE4′	49.00
"Fluracite" Glass Panel Troffers				
2-40 Watt	1752-C4′	41.75	1752-CE4′	38.15
3-40 Watt	1753-C4′	50.35	1753-CE4′	46.65

FLUORESCENT RECESSED TROFFERS

"Eye-Comfort" TROFFERS



Curtis "Eye-Comfort" Troffers are designed for eye-comfort and high efficiency. The contour of the reflector is designed for low-brightness, to produce installations having low-brightness ratios. The parabolic contour directs a maximum amount of light to the working plane.

Application: For offices, schools, stores and other commercial locations.

Fleur-O-Lier Index No.: The 1762-C Troffer is classified under the Fleur-O-Lier Index No. D-40-0-0-R.

Construction: Wireway is a five-foot, three-sided steel channel, easily coupled on the floor to form continuous rows of convenient installation lengths. The wireway is suspended from "U" shaped brackets which are readily adjustable for thickness of framing and plaster or acoustical material.

Material: Wireway channel, intermediate and end plates are made of heavy gauge steel. Parabolic reflectors are of aluminum.

Finish: Reflectors finished Alzak Aluminum. Wireway channel finished black; intermediate and end plates finished aluminum bronze.

Dimensions: Required ceiling opening approximately 12 inches wide, and length in multiples of five feet. Recessing depth from ceiling line to top of troffer assembly is 12 inches.

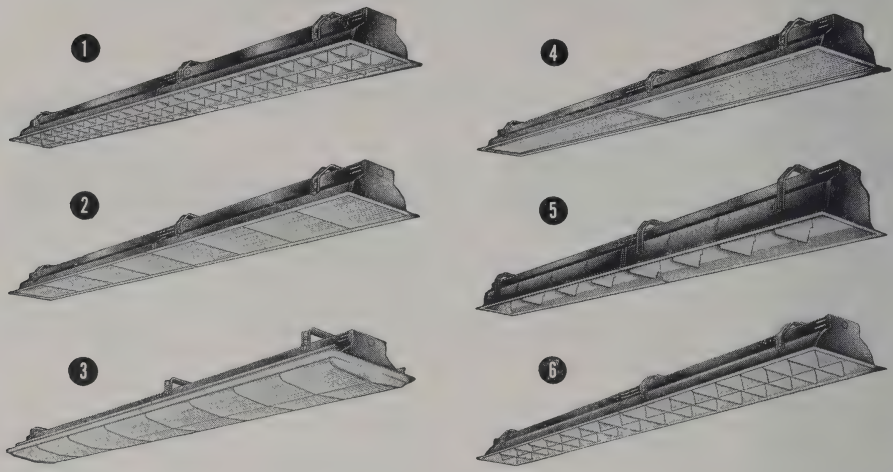
Candlepower Distribution: Luminaire is of direct type. Approximately 95% of the luminaire output is in the 0°-60° zone. Less than 4%, the bare lamp output, emitted from the luminaire is in the 60°-90° zone. The transverse shielding angle is 40° (50°-90°).

Wiring: Troffers are available wired only for 110-125 volt A.C. circuits and are supplied with two-lamp instant start high power factor ballasts. Total wattage — 110 watts for each 10 foot section. In general, one wire entrance is sufficient for an entire line. Less lamps.

Ordering Information: Each 10-ft. basic section (No. 1762-C10′) and each 10-ft. extension section (No. 1762-CE10′) employs two 60-inch, 40-watt low-brightness lamps and one two-lamp instant start high power factor ballast. Each 5-ft. section (No. 1761-C5′) utilizes one two-lamp instant start high power factor ballast wired for one 60-inch 40-watt low-brightness lamp. Where an installation requires five-foot multiples, such as two rows of 25-ft., two 10-ft. basic sections and three 10-ft. extension sections would be utilized for greatest economy. An installation requiring five-foot multiples in odd number of rows, such as three rows of 25-ft., two 10-ft. basic sections, one 5-ft. basic section and five 10-ft. extension sections would be used.

Cat. No.	Description	Price Each
1762-C10′	Basic unit for two 60-inch, T-17, 40W fluorescent lamps	$83.35
1762-CE10′	Extension unit for two 60-inch, T-17, 40W fluorescent lamps	79.65
1762-C5′	Basic unit for one 60-inch, T-17, 40W fluorescent lamp	52.10

DAY-BRITE FLUORESCENT RECESSED TROFFERS



1. **Boxco Louvered Troffers**—for two or three lamps, single units or continuous installations. Entire hinged louver can be easily installed or removed. All exposed parts rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified ballasts (ETL approved), sockets, NO-BLINK type starters.

2. **Holophane Flat Controlens Troffers**—for two or three lamps, single units or continuous installations. CONTROLENS can be easily removed for servicing without use of tools. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified ballasts (ETL approved) sockets, NO-BLINK type starters.

3. **Holophane Curved Controlens Troffers**—for two or three lamps, single units or continuous installations. Available for use with both the 11 and 13½-inch wide HOLOPHANE CURVED CONTROLENS. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified (ETL approved) ballasts, sockets, NO-BLINK type starters.

4. **Glass-Enclosed Troffers**—for two or three lamps, single units or continuous installations. Ribbed SKYTEX glass panels are rigidly supported in die-rolled frames with separable hinge device for easy maintenance. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified ballasts (ETL approved), sockets, NO-BLINK type starters.

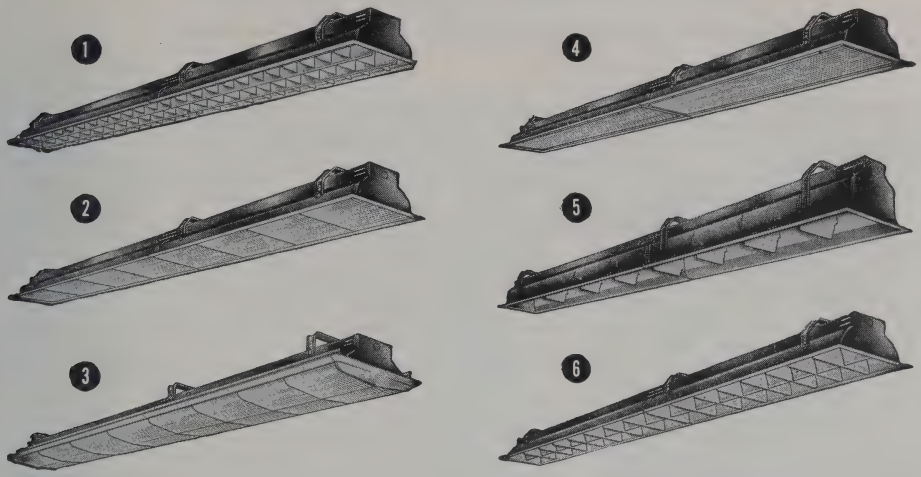
5. **Lateral Louvered Troffers**—for two lamps, single units or continuous installations. Individual louvers easily installed or removed. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with certified ballasts (ETL approved), sockets, NO-BLINK type starters.

6. **Diffuse Alzak Aluminum Troffers**—for two lamps, single units or continuous installations. Parabolic design engineered for accurate control of light distribution with low brightness ratio. Entire louver assembly easily installed or removed. Wired with certified ballast (ETL approved), sockets, and NO-BLINK type starters.

Prices Include NO-BLINK Type Starters

Illustration	Cat. No.	For Lamps: No.	For Lamps: Size	Body Dimens.: Length	Body Dimens.: Height	Ceiling Opening	Installation	Appr. Ship. Wt. Lbs.	Each List
1	**42245-4**	2	40W-118v	48″	7⅝″*	12″	Flange	35	**$54.90**
1	**42240-4**	2	40W-118v	48″	6⅞″	12″	Snap-in	33	**52.26**
1	**42345-4**	3	40W-118v	48″	7⅝″*	12″	Flange	39	**69.74**
1	**42340-4**	3	40W-118v	48″	6⅞″	12″	Snap-in	37	**67.10**
2	**42255-4**	2	40W-118v	48″	7⅝″*	12″	Flange	49	**63.14**
2	**42250-4**	2	40W-118v	48″	6⅞″	12″	Snap-in	45	**60.50**
2	**42355-4**	3	40W-118v	48″	7⅝″*	12″	Flange	53	**78.00**
2	**42350-4**	3	40W-118v	48″	6⅞″	12″	Snap-in	49	**75.36**
3	**43220-4**	2	40W-118v	48″	5½″*	12″	Flange	52	**91.74**
3	**43210-4**	2	40W-118v	48″	4⅝″	12″	Snap-in	50	**89.10**
3	**43320-4**	3	40W-118v	48″	5½″*	12″	Flange	56	**106.60**
3	**43310-4**	3	40W-118v	48″	4⅝″	12″	Snap-in	54	**103.96**
4	**42235-4**	2	40W-118v	48″	7⅝″*	12″	Flange	47	**53.24**
4	**42230-4**	2	40W-118v	48″	6⅞″	12″	Snap-in	43	**50.60**
4	**42335-4**	3	40W-118v	48″	7⅝″*	12″	Flange	51	**68.10**
4	**42330-4**	3	40W-118v	48″	6⅞″	12″	Snap-in	47	**65.46**
5	**42290-4**	2	40W-118v	48″	11¼″*	12″	Flange	35	**44.44**
5	**42280-4**	2	40W-118v	48″	10½″	12″	Snap-in	33	**41.36**
6	**42275-4**	2	40W-118v	48″	7⅝″*	12″	Flange	27	**66.44**
6	**42265-4**	2	40W-118v	48″	6⅞″	12″	Snap-in	24	**62.48**

DAY-BRITE SLIMLINE RECESSED TROFFERS



1. **Boxco Louvered Troffers**—for two or three 75-watt Slimline Lamps, single units or continuous installations. Entire hinged louver can be easily installed or removed. All exposed parts rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified ballasts (ETL approved), and sockets.

2. **Holophane Flat Controlens Troffers**—for two or three 75-watt Slimline Lamps, single units or continuous installations. CONTROLENS can be easily removed for servicing without use of tools. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified ballasts (ETL approved), and sockets.

3 **Holophane Curved Controlens Troffers**—for two or three 75-watt Slimline Lamps, single units or continuous installations. Available for use with both 11 and 13½-inch wide HOLOPHANE CONTROLENS CURVED. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified (ETL approved) ballasts, and sockets.

4. **Glass-Enclosed Troffers**—for two or three 75-watt Slimline Lamps, single units or continuous installations. Ribbed SKYTEX glass panels are rigidly supported in die-rolled frames with separable hinge device for easy maintenance. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with safety fuse, certified ballasts (ETL approved), and sockets.

5. **Lateral Louvered Troffers**—for two 75-watt Slimline Lamps, single units or continuous installations. Individual louvers easily installed or removed. Rust-inhibited and finished in HOT-BONDED SUPER-WHITE enamel. Equipped with certified ballasts (ETL approved), and sockets.

6. **Diffuse Alzak Aluminum Troffers**—for two 75-watt Slimline Lamps, single units or continuous installations. Parabolic design engineered for accurate control of light distribution with low brightness ratio. Entire louver assembly easily installed or removed. Wired with certified ballast (ETL approved), and sockets.

Illustration	Cat. No.	For Lamps: No.	For Lamps: Size	Body Dimens.: Length	Body Dimens.: Height	Ceiling Opening	Installation	Appr. Ship. Wt. Lbs.	Each List
1	**92245-8**	2	75W-118v	96″	7⅝″*	12″	Flange	69	**$118.36**
1	**92240-8**	2	75W-118v	96″	6⅞″	12″	Snap-in	65	**114.40**
1	**92345-8**	3	75W-118v	96″	7⅝″*	12″	Flange	79	**149.16**
1	**92340-8**	3	75W-118v	96″	6⅞″	12″	Snap-in	75	**145.20**
2	**92255-8**	2	75W-118v	96″	7⅝″*	12″	Flange	97	**134.86**
2	**92250-8**	2	75W-118v	96″	6⅞″	12″	Snap-in	89	**130.90**
2	**92355-8**	3	75W-118v	96″	7⅝″*	12″	Flange	107	**165.66**
2	**92350-8**	3	75W-118v	96″	6⅞″	12″	Snap-in	99	**161.70**
3	**93220-8**	2	75W-118v	96″	5½″*	12″	Flange	103	**184.36**
3	**93210-8**	2	75W-118v	96″	4⅝″	12″	Snap-in	99	**180.40**
3	**93320-8**	3	75W-118v	96″	5½″*	12″	Flange	113	**215.16**
3	**93310-8**	3	75W-118v	96″	4⅝″	12″	Snap-in	109	**211.20**
4	**92235-8**	2	75W-118v	96″	7⅝″*	12″	Flange	93	**115.06**
4	**92230-8**	2	75W-118v	96″	6⅞″	12″	Snap-in	85	**111.10**
4	**92335-8**	3	75W-118v	96″	7⅝″*	12″	Flange	103	**145.86**
4	**92330-8**	3	75W-118v	96″	6⅞″	12″	Snap-in	95	**141.90**
5	**92290-8**	2	75W-118v	96″	11¼″*	12″	Flange	69	**96.58**
5	**92280-8**	2	75W-118v	96″	10½″	12″	Snap-in	65	**91.96**
6	**92275-8**	2	75W-118v	96″	7⅝″*	12″	Flange	53	**139.26**
6	**92265-8**	2	75W-118v	96″	6⅞″	12″	Snap-in	47	**133.98**

* Height of Flange Type fixtures allows for suspension strap.

WAKEFIELD LUMINOUS-ACOUSTICAL CEILING

Integrating over-all glare-free light with acoustical control

A study of this recent installation shows the definite advantages of the Wakefield Luminous-Acoustical Ceiling for offices, drafting rooms, classrooms and other areas devoted to critical visual tasks.

1. Evenly distributed, glare-free light with exceptionally low brightness contrasts.
2. Architecturally discreet concealment of pipes and ducts with ready accessibility to them.
3. Efficient sound control integrated with the light source (acoustical baffles suspended below luminous ceiling).
4. A complete package, shipped direct to the job, and installed completely by a factory trained and licensed electrical contractor.

An illumination survey by a registered professional electrical engineer shows brightness ratios well below those of I.E.S. Recommended Practice of Office Lighting. For example: from 1.4 to 1 to 1.1 to 1 between task and wall; 2.2 to 1 maximum between luminous ceiling and wall.

DESCRIPTION: Fluorescent sources are suspended from structural members above. Diffusion is provided by translucent corrugated acrylic plastic sheets installed 12 inches below the light source. Suspended below these sheets at 36-inch intervals are perforated acoustical baffles, wedge shaped in cross section and filled with sound absorbing material.

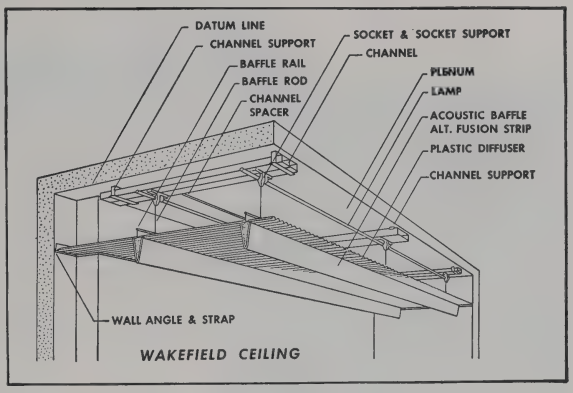
WAKEFIELD LUMINOUS-ACOUSTICAL CEILING

Intensity (amount) of Light: The ceiling offers a choice of intensities ranging from 50 footcandles to substantially higher levels.

Transmission of Light: The plastic sheets furnish an apparent transmission of about 87%.

Absence of Glare: Since there is uniformity of low brightness throughout the ceiling, there is no glare or undue brightness when reflecting surfaces within the room are co-ordinated.

Covering Pipes: Obviously, to completely cover a ceiling cluttered by pipes and ducts will produce a neatness not available before. This principle applies also to planning new construction. Pipe runs cease to be a problem and economies can result.



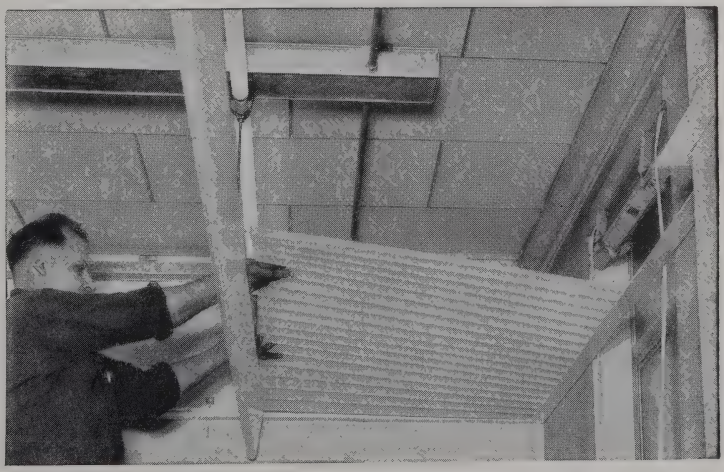
Engineered for Comfort: Every Wakefield Ceiling will be engineered to the use of the room in which it is to be installed. A flick of the switch can furnish several levels of illumination in any given area in the interests of visual comfort and economy — a particular level for use with day lighting, night lighting or cloudiness or short winter days.

Acoustical Control: The perforated acoustical baffles, filled with sound-absorbing material, and suspended below the luminous ceiling are an adaptation by Wakefield of a development by Bell Telephone Laboratories, Inc., and are licensed under U. S. Patent No. 2,160,638. On a square foot basis, the ceiling has a noise reduction coefficient of .40.

Acoustical Baffles Optional: The Wakefield Ceiling may be installed with or without acoustical baffles. Without baffles a translucent fusion strip is supplied to reduce brightness ratios produced by opaque mullions.

Installation: A baffle rail or fusion strip and hanger constitute "the method" which involves the fewest possible supports, therefore a "method" which brings economy of both structural and electrical material as well as striking economy of labor on new or remodelling work. An electrical contractor handles the entire installation.

How Distributed: The Wakefield ceiling is handled through GESCO as a licensed agent and installed by licensed installers. Planning is done through professional engineers and architects. Drawings submitted to Wakefield will be interpreted by job engineers into drawings, bills of material and quotations.



The last step in installation of the ceiling — a workman places a panel of the acrylic plastic ceiling. Note the fluorescent light source, acoustical baffles and wall angle already in place.

HOLOPHANE FLUORESCENT COMMERCIAL LIGHTING UNITS

HOLOFLUX* RECESSED 9200 SERIES

(Underwriters Approved)

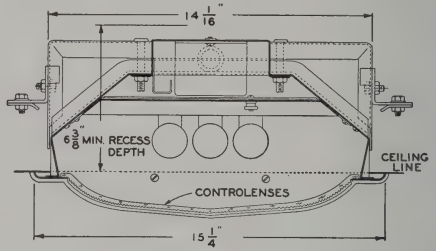
Extended Run (8 feet) Consisting of Two HOLOFLUX Unit-sections

Fluorescent lighting has passed the bare lamp stage. Good modern practice shields the lamps — with actual increase of utilization efficiency. Best appearance is achieved through recessed (built-in) arrangements. HOLOFLUX 9200 series units are suitable for all commercial applications.

A well known industrial designer created their outward appearance. Holophane engineers evolved the optical system; its basis is a new curved-type CONTROLENS* which works interchangeably with two or three lamps. Under any operating conditions, the prismatic glass lens will not warp or discolor; soap and water can restore its initial condition.

The CONTROLENS produces these advantages: 1—shields the lamps and reduces the glare; 2—confines the light in a useful and intensive pattern; 3—provides enclosure for low dust depreciation.

Units may be used singly or ganged together. Basic units are 4 feet.



Sectional View

These units permit mounting into various ceiling constructions. Mechanical accessories include provisions to compensate for irregular ceilings.

Recessed HOLOFLUX units are available in both hinged and unhinged construction and for use with a variety of fluorescent lamps of both the starter and instant start types.

UNHINGED UNITS

Cat. No.	Lamp Data	Dimensions, Inches — Length	Width	Depth	Shpg. Wt. Lbs. Ea.
9201-S	2-F40T12 Bipin Starter Type	48	14	6⅜	57
9202-S	3-F40T12 Bipin Starter Type	48	14	6⅜	61
9204-S	6-F40T12 Bipin Starter Type	96	14	6⅜	121
9205-S	1-F40T12 Bipin Starter Type	48	14	6⅜	53
9209-S	3-F40T12 Bipin Starter Type	48	14	6⅜	61
9222-S	2-F96T12 Single Pin Inst. St.	96	14	6⅜	114
9223-S	3-F96T12 Single Pin Inst. St.	96	14	6⅜	135
9225-S	2-F48T12 Single Pin Inst. St.	48	14	6⅜	62
9226-S	3-F48T12 Single Pin Inst. St.	48	14	6⅜	71
Mi-127	End Plate for Unhinged Units				2¼

HINGED UNITS

Cat. No.	Lamp Data	Dimensions, Inches — Length	Width	Depth	Shpg. Wt. Lbs. Ea.
9252-S	2-F40T12 Bipin Starter Type	48¼	14⅛	6⅜	54
9253-S	3-F40T12 Bipin Starter Type	48¼	14⅛	6⅜	55
9262-S	2-F48T12 Single Pin Inst. St.	48¼	14⅛	6⅜	58
9263-S	3-F48T12 Single Pin Inst. St.	48¼	14⅛	6⅜	61
9272-S	2-F96T12 Single Pin Inst. St.	48¼	14⅛	6⅜	112
9273-S	3-F96T12 Single Pin Inst. St.	48¼	14⅛	6⅜	122
05217	End Plate for Hinged Units				2

MOUNTING ACCESSORIES—HINGED OR UNHINGED TYPES

Use 2 Mi-94 framing members and 4 Br-10 brackets for first 4 ft. section.

Use 1 Mi-94 and 2 Br-10 for each additional connected section.

*Reg. U.S. Pat. Off.

OTHER CRITICAL DIMENSIONS

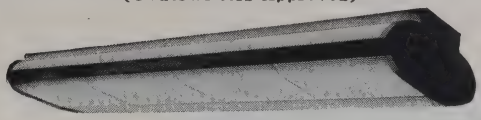
	Unhinged	Hinged
Depth	6⅜"	6⅜"
Plaster or frame width	14¼"	14¼"
Plaster or frame length	49"*	49¼"*
	48"**	48¼"**

*Length for first section.
**Length for each additional connected section.

HOLOPHANE FLUORESCENT COMMERCIAL LIGHTING UNITS

SURFACE MOUNTED HOLOFLUX* FOR ATTACHING TO CEILING

(Underwriters Approved)



Surface Mounted Holoflux

For general and private offices, stores, schools, drafting rooms, banks, libraries — and other commercial application where efficient lighting of the semi-direct type is desired.

Availabe in: Close-ceiling or Stem Suspension Types. Individual Units or Extended Runs.

Surface Attached Holoflux is the only fully enclosed lighting unit of its type. It is protected against the collection of dust and dirt; performance between routine cleaning intervals is high. Prismatic glass CONTROLENS easily cleaned with common cleaning compounds; these units are easily accessible for relamping or cleaning purposes.

These surface mounted Holoflux units feature a new curved-type CONTROLENS* which works interchangeably with two, three or four 4 foot starter type or instant start slimline fluorescent lamps. They afford the ideal solution for installations where, either because of design considerations or ceiling job conditions, surface mounted units are favored over the "recessed" types. Holophane offers this ceiling attached Holoflux line which embodies the best characteristics of the recessed units with the added attraction of producing a substantial amount of ceiling illumination.

While its projection from the ceiling is only 8⅝ inches, this is sufficient to enable the top refracting element to spread a portion of the light widely across the ceiling to provide a luminous background to the unit. This helps to soften shadows and reduces the contrast of brightnesses within the field of view.

The CONTROLENS is identical with that used in the recessed unit, and the upper member is a combination reflector, to work with the lens, and refractor to produce the ceiling illumination referred to.

Constructional features permit the unit to be used as a single fixture, or ganged together to produce extended lengths. Attachments are provided at the top so that if desired, the unit may be suspended on stems. This may be necessary in cases of extreme ceiling heights, or where sprinkler pipes, beams, or other obstructions prevent the installation of the unit tight against the ceiling.

The units are available for either 2, 3 or 4 lamps. Lamp holders are wired to the ballast and a length of wire is provided to reach from the ballast to outlet box.

High power factor, 110-125 volts, 60 cycle, ballast is standard.

ILLUMINATION DESIGN DATA

Distribution of these units is Intensive with 70% of the total output directed into the useful 0—60 degree zone and 19% upward toward the ceiling.

Spacing. Because of today's demand for high illumination levels, fluorescent units are usually closely spaced or ganged together in continuous runs. Maximum permissible spacing is, therefore, of little interest except where uniform illumination of a low level is required. In that case, the units may be spaced as far apart as 1.25 times their mounting height above the work.

Brightness. The brightness of these units in the glare zone is very low. Typical values in footlamberts are:

Type	65° Across	65° Along	75° Across	75° Along	85° Across	85° Along
2 Lamp	232	450	270	235	260	90
3 Lamp	286	680	296	340	320	90
4 Lamp	420	790	455	410	425	130

CATALOG DATA

Cat. No.	Lamp Wattage	Spacing Ratio	Dimensions, Inches: Length	Width	Depth	Termination	Shpg. Wt. Lbs. Each
	Close Ceiling Type						
9210	2—F40T12 Bipin Starter Type	1.25	48¼	14¼	8⅜		71
9211	3—F40T12 Bipin Starter Type	1.25	48¼	14¼	8⅜		75
9212	4—F40T12 Bipin Starter Type	1.25	48¼	14¼	8⅜	Channel support	78
†**9216–8′**	6—F40T12 Bipin Starter Type	1.25	96½	14¼	8⅜	furnished with	149
9219	3—F40T12 Bipin Starter Type	1.25	48¼	14¼	8⅜	unit.	75
9240	2—F48T12 Single Pin Inst. St.	1.25	48¼	14¼	8⅜		76
9241	3—F48T12 Single Pin Inst. St.	1.25	48¼	14¼	8⅜		85
9242	4—F48T12 Single Pin Inst. St.	1.25	48¼	14¼	8⅜		85
	Suspension Type (Includes No. 0290 Hanger)						
9213	2—F40T12 Bipin Starter Type	1.25	48¼	14¼	25⅞		76
9214	3—F40T12 Bipin Starter Type	1.25	48¼	14¼	25⅞	Ceiling Plate	80
9215	4—F40T12 Bipin Starter Type	1.25	48¼	14¼	25⅞	for stem	83
9243	2—F48T12 Single Pin Inst. St.	1.25	48¼	14¼	25⅞	suspension.	81
9244	3—F48T12 Single Pin Inst. St.	1.25	48¼	14¼	25⅞		90
9245	4—F48T12 Single Pin Inst. St.	1.25	48¼	14¼	25⅞		90

†9216-8′ consists of two 3 lamp unit-section: one containing 1 two lamp ballast; the other containing 2 two lamp ballasts. One, two, or three lamps per section may be used as desired.

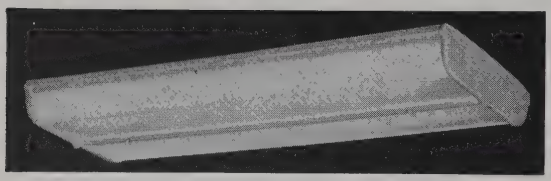
★Reg. U.S. Pat. Off.

HOLOPHANE FLUORESCENT COMMERCIAL LIGHTING UNITS

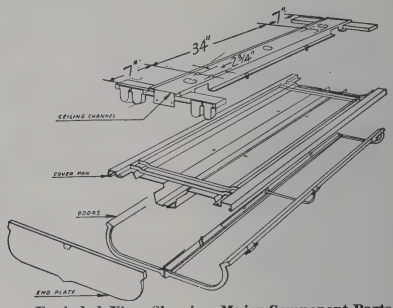
Surface Mounted HOLOFLUX★ for Attaching to Ceiling

"9300" Series

Underwriters Approved

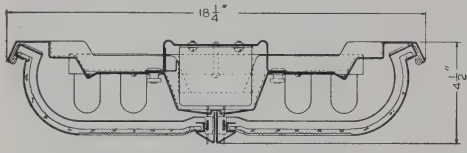


Typical "9300" HOLOFLUX Unit



Exploded View Showing Major Component Parts

The "9300" series of HOLOFLUX units is the latest development in controlled fluorescent lighting. Low in brightness high in efficiency and comfort these ceiling-attached units are ideally suited for office, store, classroom, bank, laboratory lighting, etc.



Sectional View

Basic sections are four feet long and can be connected together in sleek continuous runs without visible transverse joints. Shallow in depth and using the new No. 9300 CONTROLENS★ which gives downward and outward control, the unit is totally enclosed assuring low dust and dirt depreciation which results in continued high output efficiency and longer periods between cleanings.

The CONTROLENS are held in hinged frames affording easy access to the interior of the unit for relamping or other maintenance.

Installation is easily made by first attaching a ceiling channel which includes ballasts and lampholders to the ceiling. A cover pan fits up over the ballasts and fastens to the ceiling channel. The door frames, with CONTROLENS inserted hook into hinge pins along the top edges of the cover pan and rotate on these pins for opening and closing. The doors are held closed by spring type latches down the center of the unit.

A wide range of lamp sizes and types can be specified for the "9300" line to meet the modern levels of illumination and comfort.

ILLUMINATION DESIGN DATA

Distribution of these units is Intensive with about 77% of the total output directed into the useful 0—60 degree zone and about 9% upward toward the ceiling.

Spacing. Because of today's demand for high illumination levels, fluorescent units are usually closely spaced or ganged together in continuous runs. Maximum permissible spacing is, therefore, of little interest except where uniform illumination of a low level is required. In that case, the units may be spaced as far apart as 1.25 times their mounting height above the work.

Brightness. The brightness of these units in the glare zone is very low. Typical values in footlamberts are:

Numbers	60° Across	60° Along	70° Across	70° Along	80° Across	80° Along
9312-S	280	200	250	175	260	190
9314-S	500	345	450	320	475	335

CATALOG DATA

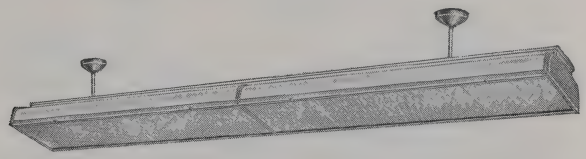
Cat. No.	Lamp Data	Dimensions, Inches: Length	Width	Depth	Shpg. Wt. Lbs. Ea.
9302-S	2-F40T12 Bipin Starter Type	48	18¼	4½	74
9304-S	4-F40T12 Bipin Starter Type	48	18¼	4½	82
9312-S	2-F48T12 Single Pin Inst. St.	48	18¼	4½	81
9314-S	4-F48T12 Single Pin Inst. St.	48	18¼	4½	93
9322-S	2-F96T12 Single Pin Inst. St.	96	18¼	4½	151
9324-S	4-F96T12 Single Pin Inst. St.	96	18¼	4½	162
05211	End Plate				3

Two No. 05211 end plates are used for each run. Length of complete unit with end plate is equal to total section lengths plus 2 inches.

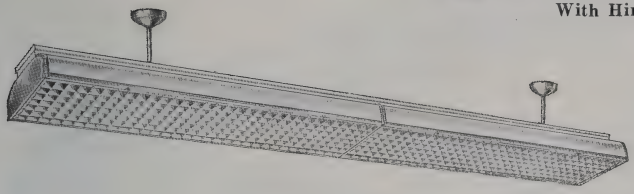
★ Reg. U.S. Pat. Off.

MILLER COMMERCIAL LIGHTING FIXTURES

THE HARTFORD FOR SLIMLINE FLUORESCENT LAMPS



With Hinged Door with Lucite Diamond Lens



With Hinged Metal Louver Door

The **Hartford** is a semi-direct fixture shown with two types of hinged door enclosures as listed. The wiring channel and cover plate are of #20 gauge steel, finished in baked white enamel. End plates and shielding assembly are of .040" aluminum with durable etched and lacquered finish. Shielding assembly has side panels of translucent Polystyrene plastic. Fixtures carry Fleur-o-lier index rating.

Individual Fixtures with Hinged Metal Louver Door for Two T12 (430MA) Slimline Fluorescent Lamps

Catalog Number		User Net Price	No. of Lamps	Length	Width	Depth	App. Net Wt. Lbs.
With C80 Clamp Hangers							
C1002TL-4	With end plates—	**$53.70**	2-48"-T12	48"	12 3/16"	6¾"	31
C1002TL-8	and two C80 clamp hangers	**89.80**	2-96"-T12	96"	12 3/16"	6¾"	53¾
With CS71 Stem Hangers							
CS1002TL-4	With end plates—	**55.65**	2-48"-T12	48"	12 3/16"	14"	31
CS1002TL-8	and two CS71 stem hangers	**91.70**	2-96"-T12	96"	12 3/16"	14"	53¾

Individual Fixtures with Hinged Door with Lucite Diamond Lens for Two T12 (430MA) Slimline Fluorescent Lamps

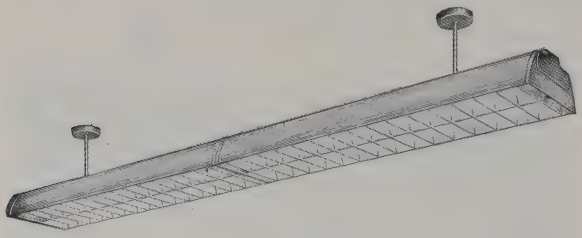
Catalog Number		User Net Price	No. of Lamps	Length	Width	Depth	App. Net Wt. Lbs.
With C80 Clamp Hangers							
C1002TLD-4	With end plates—	**59.45**	2-48"-T12	48"	12 3/16"	6¾"	32¼
C1002TLD-8	and two C80 clamp hangers	**101.30**	2-96"-T12	96"	12 3/16"	6¾"	56¼
With CS71 Stem Hangers							
CS1002TLD-4	With end plates—	**61.35**	2-48"-T12	48"	12 3/16"	14"	32¼
CS1002TLD-8	and two CS71 stem hangers	**103.25**	2-96"-T12	96"	12 3/16"	14"	56¼

NOTE: Prices do not include lamps.

Fixtures are individually packed—add 8 lbs. per 4 foot fixture, 15 lbs. per 8 foot fixture (to net weights given) for approximate packed weights.

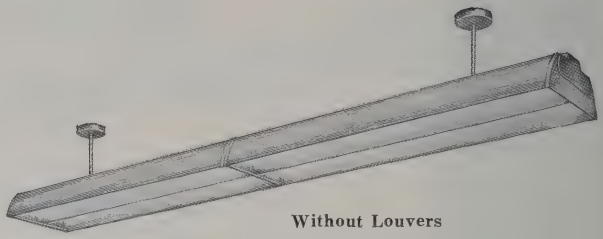
MILLER COMMERCIAL LIGHTING FIXTURES

THE HANOVER FOR GENERAL LINE AND SLIMLINE FLUORESCENT LAMPS



With Louvers

The **Hanover** is a General Diffuse fixture with 34 degree crosswise and 30 degree lengthwise shielding. Brightness and glare are eliminated and high levels of illumination are provided at the working plane. The wiring channels and reflector assembly are of .037" steel, finished in high bake white enamel. End plate is of aluminum with durable etched and lacquered finish. Fixtures carry Fleur-o-lier index rating.



Without Louvers

REFLECTOR WITH LOUVERS HAS RIBBED EXTRUDED POLYSTYRENE SIDE PANELS

Individual Fixtures for Two General Line Fluorescent Lamps with FS-4 Starters

Catalog Number		User Net Price	No. of Lamps	Length	Width	Depth	App. Net Wt. Lbs.
With C78 Clamp Hangers							
C602P-4	With end plates—	**$30.80**	2-48"-40W	48"	12 9/16"	6"	24
C602P-8	and two C78 clamp hangers	**60.45**	2-248-40W	96"	12 9/16"	6"	46
With CS76 Stem Hangers							
CS602P-4	With end plates—	**33.60**	2-48"-40W	48"	12 9/16"	25¼"	24
CS602P-8	and two CS76 stem hangers	**63.25**	2-248-40W	96"	12 9/16"	25¼"	46

Individual Fixtures for Two T12 (430MA) Slimline Fluorescent Lamps

With C78 Clamp Hangers							
C6002P-4	With end plates—	**37.70**	2-48"-T12	48"	12 9/16"	6"	29
C6002P-8	and two C78 clamp hangers	**61.50**	2-96"-T12	96"	12 9/16"	6"	50½
With CS76 Stem Hangers							
CS6002P-4	With end plates—	**40.40**	2-48"-T12	48"	12 9/16"	25¼"	29
CS6002P-8	and two CS76 stem hangers	**64.30**	2-96"-T12	96"	12 9/16"	25¼"	50½

REFLECTOR WITHOUT LOUVERS HAS RIBBED EXTRUDED POLYSTYRENE SIDE PANELS

Individual Fixtures for Two General Line Fluorescent Lamps With FS-4 Starters

Catalog Number		User Net Price	No. of Lamps	Length	Width	Depth	App. Net Wt. Lbs.
With C78 Clamp Hangers							
C612P-4	With end plates—	**$27.90**	2-48"-40W	48"	12 9/16"	6"	21½
C612P-8	and two C78 clamp hangers	**54.45**	2-248-40W	96"	12 9/16"	6"	42½
With CS76 Stem Hangers							
CS612P-4	With end plates—	**30.60**	2-48"-40W	48"	12 9/16"	25¼"	21½
CS612P-8	and two CS76 stem hangers	**57.30**	2-248-40W	96"	12 9/16"	25¼"	42½

Individual Fixtures for Two T12 (430MA) Slimline Fluorescent Lamps

With C78 Clamp Hangers							
C6012P-4	With end plates—	**34.60**	2-48"-T12	48"	12 9/16"	6"	24½
C6012P-8	and two C78 clamp hangers	**55.45**	2-96"-T12	96"	12 9/16"	6"	41½
With CS76 Stem Hangers							
CS6012P-4	With end plates—	**37.40**	2-48"-T12	48"	12 9/16"	25¼"	24½
CS6012P-8	and two CS76 stem hangers	**58.30**	2-96"-T12	96"	12 9/16"	25¼"	41½

NOTE: Prices do not include lamps.

Standard package 4 pieces. Fixtures can be supplied individually packed where specified at an additional charge of **$1.25** (User) per 4 foot fixture and **$2.00** (User) per 8 foot fixture (Add 8 lbs. per 4 ft. section for packing).

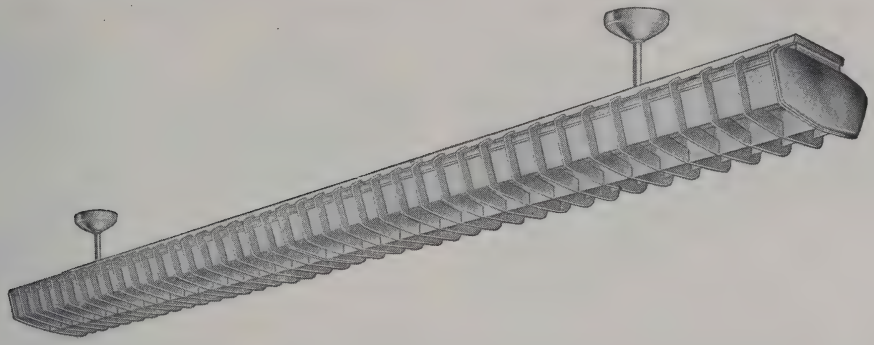
FS40 "Watch-Dog" starters can be supplied where specified at an additional charge of **50c** (User) per starter — no starters required for Slimline. 110-125 volt standard.

Slimline fixtures are standard with Series Ballasts.

Can be supplied with metal instead of Polystrene side panels (see Miller catalog).

MILLER COMMERCIAL LIGHTING FIXTURES

THE PORTLAND FOR GENERAL LINE AND SLIMLINE FLUORESCENT LAMPS



The **Portland** is a semi-direct fixture with sufficient upward light to avoid undesirable brightness contrast between the luminaire and lighted ceiling. The wiring channel and cover plate are of #20 gauge steel finished in baked white enamel. End plates and louver shielding assembly are of .040" aluminum with a durable etched and lacquered finish. The louver assembly is in 48 inch length (two per 96 inch fixture) with light density translucent side panels of extruded Polystyrene. Fixtures carry Fleur-o-lier index rating.

Individual Fixtures for Two General Line Fluorescent Lamps with FS-4 Starters

Catalog Number		User Net Price	No. of Lamps	Length	Width	Depth	App. Net Wt. Lbs.
With C80 Clamp Hangers							
C92T-4	With end plates—	**$36.35**	2-48"-40W	48"	11⅝"	7"	23¼
C92T-8	and two C80 clamp hangers	**69.25**	2-248-40W	96"	11⅝"	7"	44
With CS71 Stem Hangers							
CS92T-4	With end plates—	**38.30**	2-48"-40W	48"	11⅝"	14¼"	23¼
CS92T-8	and two CS71 stem hangers	**71.25**	2-248-40W	96"	11⅝"	14¼"	44

Individual Fixtures for Two T12 (430MA) Slimline Fluorescent Lamps

With C80 Clamp Hangers							
C82T-4	With end plates—	**43.30**	2-48"-T12	48"	11⅝"	7"	24¼
C82T-8	and two C80 clamp hangers	**69.25**	2-96"-T12	96"	11⅝"	7"	42¼
With CS71 Stem Hangers							
CS82T-4	With end plates—	**45.25**	2-48"-T12	48"	11⅝"	14¼"	24¼
CS82T-8	and two CS71 stem hangers	**71.05**	2-96"-T12	96"	11⅝"	14¼"	42¼

Individual Fixtures for Four General Line Fluorescent Lamps with FS-4 Starters

Catalog Number		User Net Price	No. of Lamps	Length	Width	Depth	App. Net Wt. Lbs.
With C80 Clamp Hangers							
C94T-4	With end plates—	**52.45**	4-48"-40W	48"	13¼"	7¾"	31¾
C94T-8	and two C80 clamp hangers	**101.45**	2-448-40W	96"	13¼"	7¾"	61
With CS71 Stem Hangers							
CS94T-4	With end plates—	**54.35**	4-48"-40W	48"	13¼"	15"	31¾
CS94T-8	and two CS71 stem hangers	**103.40**	2-448-40W	96"	13¼"	15"	61

Individual Fixtures for Four T12 (430MA) Slimline Fluorescent Lamps

With C80 Clamp Hangers							
C84T-4	With end plates—	**61.95**	4-48"-T12	48"	13¼"	7¾"	34
C84T-8	and two C80 clamp hangers	**99.70**	4-96"-T12	96"	13¼"	7¾"	56½
With CS71 Stem Hangers							
CS84T-4	With end plates—	**63.90**	4-48"-T12	48"	13¼"	15"	34
CS84T-8	and two CS71 stem hangers	**101.65**	4-96"-T12	96"	13¼"	15"	56½

NOTE: Prices do not include lamps.

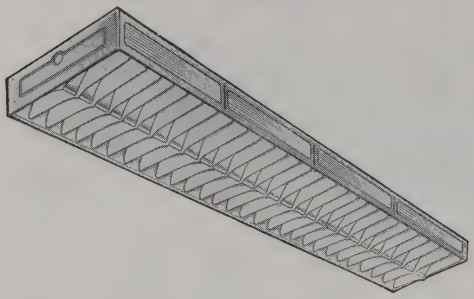
Fixtures are individually packed — add 8 lbs. per 4 foot fixture, and 15 lbs. per 8 foot fixture (to net weights given) for approximate packed weights.

FS40 "Watch-Dog" starters can be supplied where specified at an additional charge of **50c** (User) per starter — no starters required for Slimline. 110-125 volt standard.

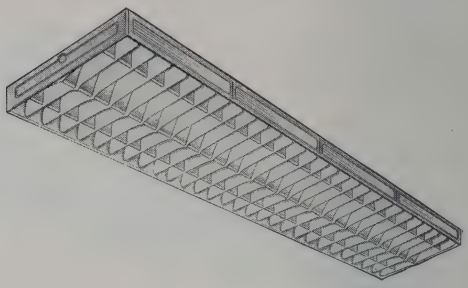
Slimline fixtures are standard with Series Ballasts.

THE DAY-BRITE PLEXOLINE SYSTEM

THE "PLEXOLINE-2" SLIMLINE
Surface Type No. 97200-8
Suspension Type Nos. 97205-8 and 97201-8



THE "PLEXOLINE-4" SLIMLINE
Surface Type No. 97400-8
Suspension Type Nos. 97405-8 and 97401-8



These two lamp and four lamp shielded fixtures listed here for the 96-inch 75-watt Slimline lamps; either surface or suspension (8" and 24" hangers) mountings.

Die-formed and welded steel construction throughout with ribbed glass side panels of Alba-lite. The entire fixture is finished in HOT-BONDED SUPER-WHITE enamel.

Furnished wired and include sockets and 430 milliampere HPF ballasts (ETL approved).

Cat. No.	For Lamps: No.	For Lamps: Size	Body Dimensions: Length	Body Dimensions: Width	Body Dimensions: Height	Hanger Length	Approx. Ship. Weight, Lbs.	Each List
97200-8	2	75W, 118v	96⅞"	12¾"	4"	------	99½	**$ 97.36**
97205-8	2	75W, 118v	96⅞"	12¾"	4"	8"	99	**98.46**
97201-8	2	75W, 118v	96⅞"	12¾"	4"	24"	100	**99.56**
97400-8	4	75W, 118v	96⅞"	21 "	4"	------	128	**167.20**
97405-8	4	75W, 118v	96⅞"	21 "	4"	8"	122	**165.00**
97401-8	4	75W, 118v	96⅞"	21 "	4"	24"	123	**166.10**

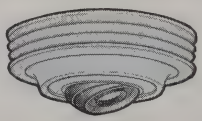
PLEXOLINE ACCENT UNITS

For Use With Plexoline-2

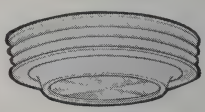
No. 80160

No. 80161

For Use With Plexoline-4



No. 80165



No. 80166

Versatile accent units, either adjustable or fixed, can be individually mounted or in surface mounted combination with all Plexoline-2 or Plexoline-4 linear fixtures.

Die-formed steel construction throughout. Circular louver body construction provides spill light on sides and ceiling area. Entire body assembly, interior, and face plate finished in HOT-BONDED SUPER WHITE enamel.

Fixed unit No. 80161 equipped with an 8⅜-inch diameter Holophane Controlens No. 80166 with a 13½-inch diameter Holophane Controlens. Adjustable units Nos. 80160 and 80165 accommodate 150-watt PAR-38 or 200-watt PAR-46 side-prong lamp either spot or flood types and a 12" Circline fluorescent lamp.

Cat. No.	Lamp Size	Body Dimensions: Diameter	Body Dimensions: Height	Approx. Ship. Wt., Lbs.	Each List
80160	150-W, PAR-38 or 200-W, PAR-46 and 12" Circline Fluo.	15"	6¼"	15	**$48.40**
80161	150-W, Incandescent	15"	6¼"	11	**33.00**
80165	150-W, PAR-38 or 200-W, PAR-46 and 12" Circline Fluo.	21"	6¼"	20	**60.50**
80166	200-W, Incandescent or 300-W, Incandescent	21"	6¼"	19	**49.50**

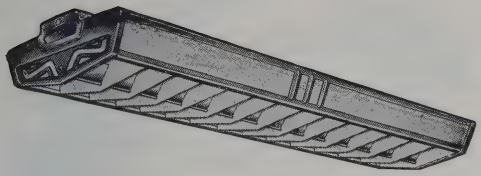
PLEXOLINE ADAPTERS

No. 7610 For Plexoline-2

No. 7611 For Plexoline-4

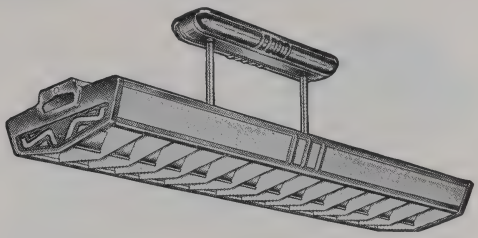
The Plexoline-2 Adapter and Plexoline-4 Adapter are of die-formed steel construction and finished in HOT-BONDED SUPER-WHITE enamel. These adapters are used between each accent unit and linear unit when ceiling mounted in continuous runs. By using two linear units, two adapters, and an accent unit as the pivot, angles and patterns can be formed. Adapters provided with self-bushed holes for through feed connections and include mounting holes and screws for attachment to linear fixtures. **Catalog No. 7610; $1.66 list each. Catalog No. 7611; $2.48 list each.**

DAY-BRITE COMMERCIAL FLUORESCENT LIGHTING FIXTURES



THE "VIZ-AID"
Surface Type No. 46230-4

For two 40-watt fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are baked SUPER-WHITE enamel . . . Steel enclosure and louvers finished in baked SUPER-WHITE enamel. Side panels are ribbed diffuse glass. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets. NO-BLINK type starters and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.

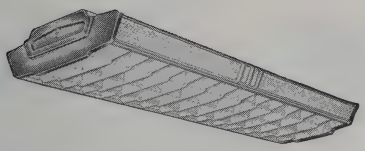


THE "VIZ-AID"
Suspension Type No. 46236-4 and 46231-4

For two 40-watt fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are baked SUPER-WHITE enamel . . . Steel enclosure and louvers finished in baked SUPER-WHITE enamel. Side panels are ribbed diffuse glass. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets. NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.

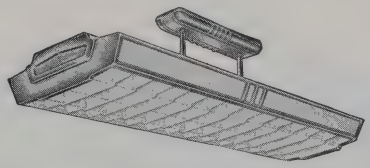
Prices include NO-BLINK type starters

Catalog No.	For Lamps: No.	For Lamps: Size	Body Dimens., Inches: Length	Width	Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46230-4	2	40w-118v	49	13	6¼	----	35	**$41.26**
46236-4	2	40w-118v	49	13	6¼	24	40	**47.30**
46231-4	2	40w-118v	49	13	6¼	8	39	**46.20**



THE "VIZ-AID-4"
Surface Type No. 46432-4

For four 40-watt fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are finished in baked lustre aluminum enamel. Side panels are ribbed diffuse glass. Louver assembly is finished in HOT-BONDED SUPER-WHITE enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.



THE "VIZ-AID-4"
Suspension Type No. 46436-4 and 46433-4

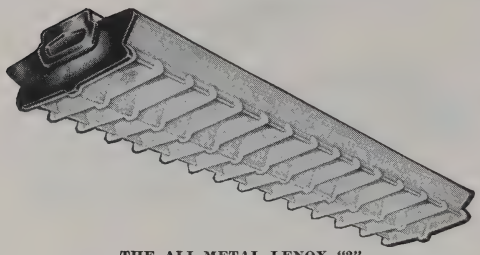
For four 40-watt fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel . . . Steel enclosure and hangers finished in baked lustre aluminum enamel. Side panels are ribbed diffuse glass. Louver assembly is finished in HOT-BONDED SUPER-WHITE enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.

Prices include NO-BLINK type starters

Cat. No.	Lamps: No.	Lamps: Size	Body Dimensions, Inches: Length	Width	Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46432-4	4	40w, 118v	48½	16½	6¼	----	53	**$75.90**
46436-4	4	40w, 118v	48½	16½	6¼	8	57	**80.86**
46433-4	4	40w, 118v	48½	16½	6¼	24	58	**81.96**

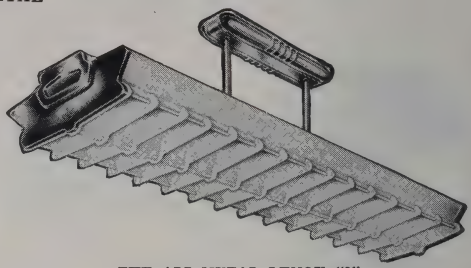
Note: The two and four lamp 40-watt fixtures listed on this page can be supplied for 40-watt SLIMLINE operation at **$6.60 list additional** for each two lamps. Add the prefix S- to catalog numbers when ordering 40-watt SLIMLINE fixtures.

DAY-BRITE COMMERCIAL FLUORESCENT LIGHTING FIXTURES
ALL-METAL



THE ALL-METAL LENOX "2"
Surface Type No. 46220-4

For two 40-watt fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is of all-metal construction. The sides and louver assembly are finished in HOT-BONDED SUPER-WHITE enamel with the ends in baked lustre aluminum enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NO-BLINK type starters, and HPF ballasts for 110-volt A.C. operation. Also available for continuous installations.



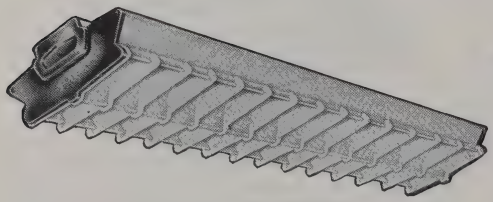
THE ALL-METAL LENOX "2"
Suspension Type Nos. 46221-4, 46226-4

For two 40-watt fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is of all-metal construction. The sides and louver assembly are finished in HOT-BONDED SUPER-WHITE enamel with the ends in baked lustre aluminum enamel. The hangers are also finished in baked lustre aluminum enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NOBLINK type starters, and HPF ballasts for 110-volt A.C. operation. Also available for continuous installations.

Prices Include NO-BLINK Type Starters

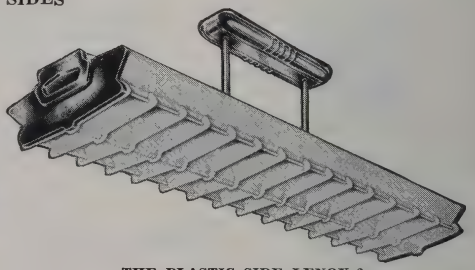
No.	Lamps: No.	Lamps: Size	Body Dimensions: Length	Body Dimensions: Width	Body Dimensions: Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46220-4	2	40w, 110v	49	11⅞	6 1/16	----	32	**$39.06**
46226-4	2	40w, 110v	49	11⅞	6 1/16	8	36	**44.00**
46221-4	2	40w, 110v	49	11⅞	6 1/16	24	37	**45.10**

PLASTIC SIDES



THE PLASTIC SIDE LENOX-2
Surface Type No. 46240-4

For two 40-watt fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is constructed with all-metal louver assembly and ends and with luminous PLASTIC side panels. Louver assembly and ends are finished in HOT-BONDED SUPER-WHITE enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NO-BLINK type starters, and HPF ballasts for 110-volt A.C. operation. Also available for continuous installations.



THE PLASTIC SIDE LENOX-2
Suspension Type No. 46246-4 and 46241-4

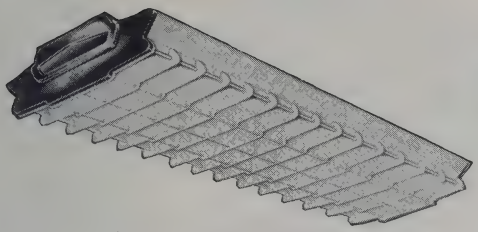
For two 40-watt fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is constructed with all-metal louver assembly and ends and with luminous PLASTIC side panels. Louver assembly and ends are finished in HOT-BONDED SUPER-WHITE enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NO-BLINK type starters, and HPF ballasts for 110-volt A.C. operation. Also available for continuous installations.

Prices Include NO-BLINK Type Starters

No.	Lamps: No.	Lamps: Size	Body Dimensions, Inches: Length	Body Dimensions, Inches: Width	Body Dimensions, Inches: Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46240-4	2	40w, 110v	49	11⅞	6	----	33	**$42.36**
46246-4	2	40w, 110v	49	11⅞	6	8	38	**47.30**
46241-4	2	40w, 110v	49	11⅞	6	24	39	**48.40**

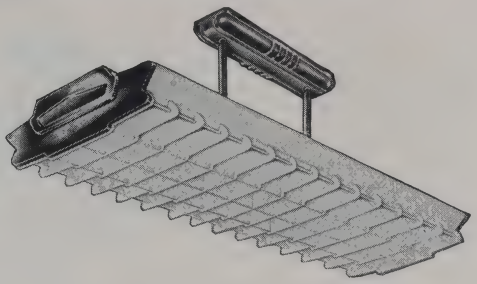
Note: The two and four lamp 40-watt fixtures listed on this page can be supplied for 40-watt SLIMLINE operation at **$6.60 list additional** for each two lamps. Add the prefix S- to catalog numbers when ordering 40-watt SLIMLINE fixtures.

DAY-BRITE COMMERCIAL FLUORESCENT LIGHTING FIXTURES
ALL METAL



THE ALL-METAL LENOX-4
Surface Type No. 46420-4

For four 40-watt fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is of all-metal construction. The sides and louver assembly are finished in HOT-BONDED SUPER-WHITE enamel with the ends in baked lustre aluminum enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wire with sockets, NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.



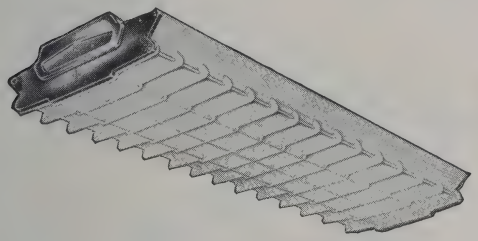
THE ALL-METAL LENOX-4
Suspension Type No. 46426-4 and 46421-4

For four 40-watt fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is of all-metal construction. The sides and louver assembly are finished in HOT-BONDED SUPER-WHITE enamel with the ends in baked lustre aluminum enamel. The hangers are also finished in baked lustre aluminum enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wire with sockets, NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.

Prices Include NO-BLINK Type Starters

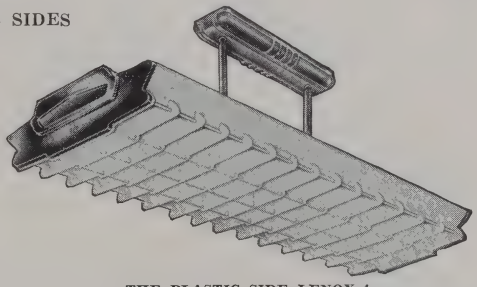
Cat. No.	Lamps No.	Lamps Size	Body Dimensions Length	Body Dimensions Width	Body Dimensions Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46420-4	4	40w, 118v	49	16¼	6¼	----	51	**$73.16**
46426-4	4	40w, 118v	49	16¼	6¼	8	56	**78.10**
46421-4	4	40w, 118v	49	16¼	6¼	24	57	**79.20**

PLASTIC SIDES



THE PLASTIC SIDE LENOX-4
Surface Type No. 46440-4

For four 40-watt fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is constructed with all-metal louver assembly and ends and with luminous PLASTIC side panels. Louver assembly and ends are finished in HOT-BONDED SUPER-WHITE enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wired with sockets, NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.



THE PLASTIC SIDE LENOX-4
Suspension Type No. 46446-4 and 46441-4

For four 40-watt fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are finished in HOT-BONDED SUPER-WHITE enamel. The enclosure is constructed with all-metal louver assembly and ends and with luminous PLASTIC side panels. Louver assembly and ends are finished in HOT-BONDED SUPER-WHITE enamel. Enclosure fastens to chassis by spring clips. Service chains to lower enclosure for maintenance are provided. Furnished wire with sockets, NO-BLINK type starters, and HPF ballasts for 118-volt A.C. operation. Also available for continuous installations.

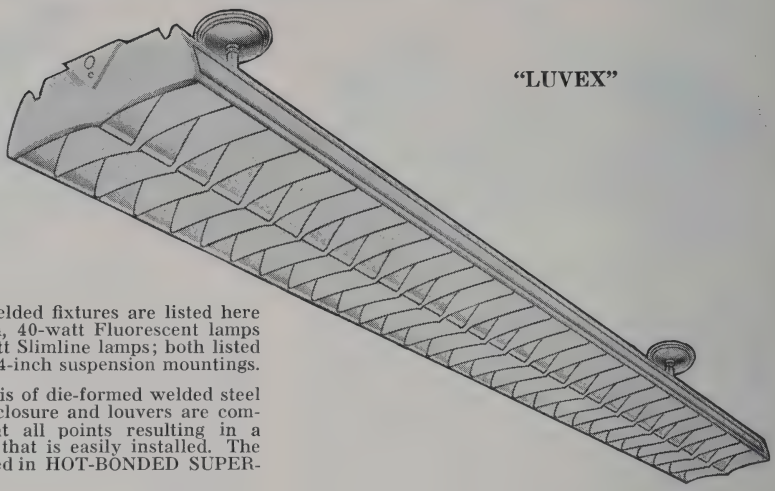
Prices Include NO-BLINK Type Starters

Cat. No.	Lamps No.	Lamps Size	Body Dimensions Length	Body Dimensions Width	Body Dimensions Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46440-4	4	40w, 118v	49	16¼	6¼	----	53	**$76.46**
46446-4	4	40w, 118v	49	16¼	6¼	8	58	**81.40**
46441-4	4	40w, 118v	49	16¼	6¼	24	59	**82.50**

Note: The two and four lamp 40-watt fixtures listed on this page can be supplied for 40-watt SLIMLINE operation at **$6.60 list additional** for each two lamps. Add the prefix S- to catalog numbers when ordering 40-watt SLIMLINE fixtures.

DAY-BRITE SLIMLINE AND FLUORESCENT COMMERCIAL UNITS

For TWO 40-WATT FLUORESCENT LAMPS and TWO 40-WATT or 75-WATT SLIMLINE Lamps—Suspension Mounting Only



"LUVEX"

These all-metal shielded fixtures are listed here for either the 48-inch, 40-watt Fluorescent lamps or the 96-inch, 75-watt Slimline lamps; both listed for either 8-inch or 24-inch suspension mountings.

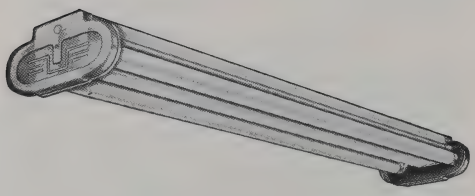
The fixture chassis is of die-formed welded steel construction. The enclosure and louvers are completely interlocked at all points resulting in a rigid, one-piece unit, that is easily installed. The entire fixture is finished in HOT-BONDED SUPER-WHITE enamel.

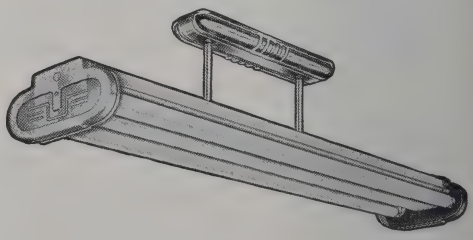
Installation is extremely simple. First, the chassis are installed either as single units or as sections of a continuous run. Next, the enclosures are fastened to the chassis with chains, and rigidly held in place by four snap latches.

Furnished wired and include sockets and HPF ballasts (ETL approved) for 118-volt, 60-cycle, A.C. operation. The fluorescent fixtures are furnished with NO-BLINK type starters.

For Lamps		Body Dimensions Inches		Hanger Length	Approx. Ship.	FLUORESCENT		SLIMLINE	
No.	Size	Length	Width	Inches	Wt. Lbs.	Cat. No.	List Each	Cat. No.	List Each
2	40W, 118V.	48½	12¾	12¾	41	**46256–4**	**$44.00**	**46266–4**	**$50.60**
2	40W, 118V.	48½	12¾	28¾	42	**46257–4**	**45.10**	**46267–4**	**51.70**
2	75W, 118V.	96½	12¾	12¾	73	----------	---------	**96266–8**	**89.10**
2	75W, 118V.	96½	12¾	28¾	74	----------	---------	**96267–8**	**90.20**

DAY-BRITE "TOPNOTCH" COMMERCIAL FLUORESCENT LIGHTING FIXTURES

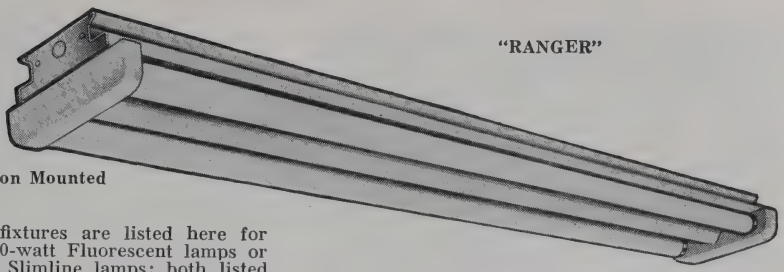




For two 40-watt fluorescent lamps. For surface and suspension mounting. Steel chassis and snap-on wireway cover are baked SUPER-WHITE enamel. Steel end plates finished in baked lustre aluminum enamel. Hangers include bridge-type ceiling strap, stems, swivel fittings, wire, stamped canopy and all necessary parts for complete installation. Furnished wired and include NO-BLINK type starters, sockets, and HPF ballasts for 118-volt, 60-cycle, A.C. operation. Also available for continuous installations.

Cat. No.	For Lamps No.	For Lamps Size	Body Dimens., Inches Length	Width	Height	Hanger Length Inches	Approx. Shpg. Wt. Lbs.	List Each
46200–4	2	40W-110V	48½	9¼	4¾	----	21	**$25.70**
46207–4	2	40W-110V	48½	9¼	4¾	8	25	**30.64**
46201–4	2	40W-110V	48½	9¼	4¾	24	26	**31.74**

DAY-BRITE SLIMLINE AND FLUORESCENT COMMERCIAL UNITS



"RANGER"

For Two 40-Watt Fluorescent Lamps and Two 75-Watt Slimline Lamps Surface and Suspension Mounted

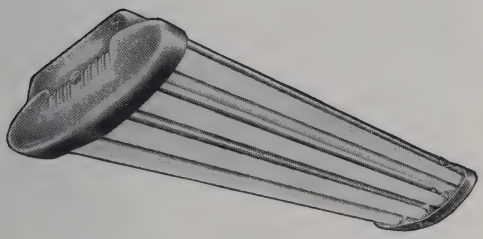
These open type fixtures are listed here for either the 48-inch, 40-watt Fluorescent lamps or the 96-inch, 75-watt Slimline lamps; both listed for surface and suspension type mountings.

Turret sockets are included with both type fixtures and the Fluorescent units include NO-BLINK type starters.

The chassis of these fixtures are of die-formed steel throughout and finished in HOT-BONDED SUPER-WHITE enamel. Units can be butted and bolted together, end to end, in any combination for continuous runs. Knockouts are provided in each end for through wiring.

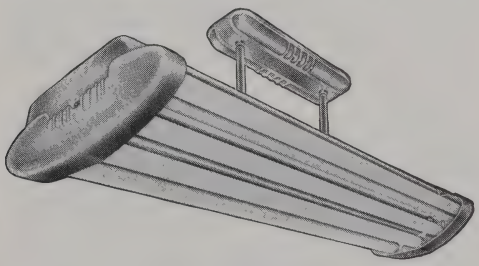
Furnished wired and include Turret sockets and HPF ballasts for 110-volt, 60-cycle, A.C. operation.

No.	For Lamps: No.	For Lamps: Size	Body Dimensions, Inches: Length	Width	Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
		FLUORESCENT						
46250-4 Surface	2	40w, 110v	49¼	7	4¼	----	28	**$27.50**
46252-4 Susp.	2	40w, 110v	49¼	7	4¼	24	33½	**33.56**
		SLIMLINE						
96260-8 Surface	2	75w, 110v	95½	7	4¼	----	51	**56.66**
96262-8 Susp.	2	75w, 110v	95½	7	4¼	24	53½	**64.36**



THE "FAIRWAY"
Surface Type No. 46422-4

For four 40-watt Fluorescent lamps . . . surface mounting. Steel chassis and snap-on wireway cover are HOT-BONDED SUPER-WHITE enamel. Steel end plates finished in baked lustre aluminum enamel. Chassis is provided with all necessary holes and K.O.'s for quick fastening to ceiling and for wire connections. Furnished wired and include NO-BLINK type starters, sockets, and HPF ballasts for 110-volt, 60-cycle, A.C. operation. Also available for continuous installations.



THE "FAIRWAY"
Suspension Type No. 46425-4 and 46423-4

For four 40-watt Fluorescent lamps . . . suspension mounting. Steel chassis and snap-on wireway cover are HOT-BONDED SUPER-WHITE enamel. Steel end plates finished in baked lustre aluminum enamel. Hangers include bridge-type ceiling strap, stems, swivel fittings, wire, stamped canopy and all necessary parts for complete installation. Furnished wired and include NO-BLINK type starters, sockets, and HPF ballasts for 110-volt, 60-cycle, A.C. operation. Also available for continuous installations.

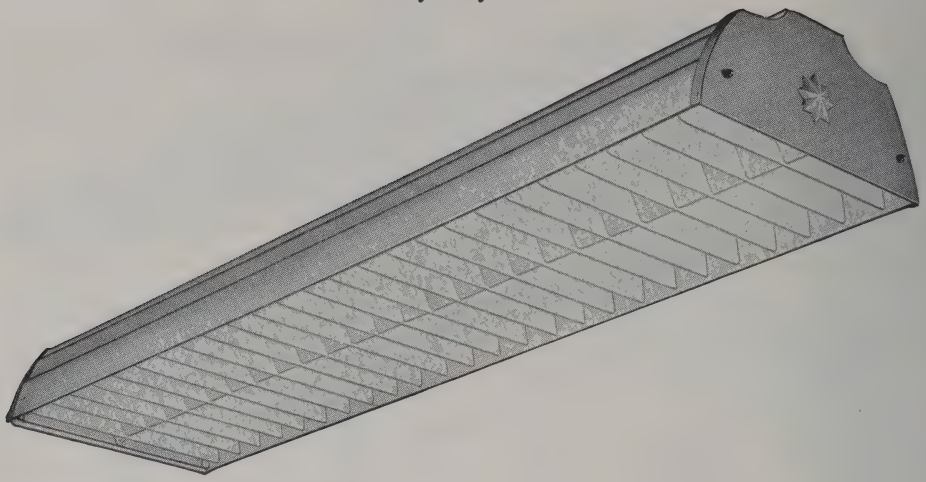
Prices Include NO-BLINK Type Starters

Cat. No.	For Lamps: No.	For Lamps: Size	Body Dimensions, Inches: Length	Width	Height	Hanger Length	Approx. Shpg. Wt. Lbs.	List Each
46422-4	4	40w, 110v	48½	12½	5	----	36	**$52.04**
46425-4	4	40w, 110v	48½	12½	5	8	40	**56.98**
46423-4	4	40w, 110v	48½	12½	5	24	41	**58.08**

Note: The two and four lamp 40-watt fixtures listed on this page can be supplied for 40-watt SLIMLINE operation at **$6.60 list additional** for each two lamps. Add the prefix S- to catalog numbers when ordering 40-watt SLIMLINE fixtures.

CURTIS FLUORESCENT LUMINAIRES

Forty-Sixty Series



The low-brightness of the Forty- Sixty Series blends with the illuminated ceiling, making it possible to attain high levels of quality illumination without annoying glare. Recommended for stores, offices and schools.

Materials and Finishes

Side reflectors and louver fins are finished in durable Alzak aluminum. Steel wiring channel finished baked white "Fluracite" enamel. Steel end plates finished silver gray. Plastic ivorytone end ornaments.

Wiring

Luminaires are regularly supplied wired for 110-125 volt AC circuits, with high power factor ballasts. Each luminaire consumes approximately 95 watts. The Forty-Sixty series units can be supplied wired for other voltages—prices quoted upon application. Lamps and lamp starters are not supplied.

Pendant or Close-Ceiling Mounting as Individual Units or Continuous Lines

The Forty-Sixty can be suspended from the ceiling by single or two stem hangers, or mounted directly to the ceiling with an attractive close ceiling mounting canopy.

This efficient series provides an economical method of extending lines of light across the ceiling to obtain high levels of quality illumination. When installing continuous lines, much of the usual expenditure for conduit, outlet boxes and fittings is eliminated.

Luminaires are quickly and easily joined end to end with connecting fittings supplied with either pendant or ceiling type hangers.

The louver is hinged so that it may be opened from either side for cleaning, relamping and replacement of starters. Maintenance is kept at a minimum as there are no horizontal reflecting or diffusing surfaces to collect dust.

Cat. No.	Shielding		Lamps	Dimensions in Inches Length	Width	Depth	Weight Installed	Price
4060-CLH	35°L.	25°C	2-40W-48"	48¾	12½	5½	25 lbs.	**$33.00**
4061-CLH	25°L.	25°C	2-85W-60"	60¾	12½	5½	33 lbs.	**51.15**
4062-CLH	No L.	25°C	2-40W-60"	60¾	12½	5½	30 lbs.	**40.00**
4063-CLH	45°L.	35°C	2-40W-48"	48¾	12½	5½	30 lbs.	**34.90**
4064-CLH	25°L.	25°C	2-40W-60"	60¾	12½	5½	32 lbs.	**43.25**
4065-CLH	35°L.	25°C	2-40W-48"	48¾	12½	5½	25 lbs.	**44.60**

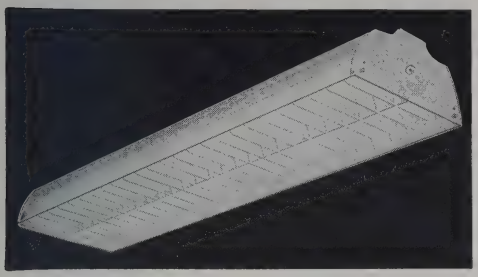
Downlights

2231	Inline	150W PAR 38	8⅝	12½	5½	6 lbs.	**16.85**
2232	Corner-Pendent	Spot or	12¾	12¾	5½	9 lbs.	**20.15**
2234	Corner ceiling	Flood	12¾	12¾	8⅜	11 lbs.	**20.15**

PENDANT HANGERS AND CLOSE-CEILING CANOPIES

Cat. No.	Mounting	Description	Suspension	Price
628	Pendant	Two-Stem (5' Units)	12 in.	**$5.00**
629	Pendant	Single Stem Set	12 in.	**5.85**
630	Pendant	Intermediate Single Stem	12 in.	**3.15**
631	Pendant	Two-Stem (4' Units)	12 in.	**3.65**
634	Pendant	One Stem	12 in.	**1.75**
639	Pendant	One Stem (Set)	12 in.	**3.10**
640	Pendant	One Stem (Connecting)	12 in.	**2.25**
641	Pendant	One Stem (Connecting)	12 in.	**2.35**
643	Canopy for	3525, 4060-63-65 Series	3 in. Depth	**7.65**
650	Canopy for	Downlights 2231-2236	3 in. Depth	**4.65**
695	Canopy for	51 Series	3 in. Depth	**7.85**
699	Canopy for	4061-62-64	3 in. Depth	**8.60**

CURTIS FLUORESCENT LUMINAIRES
Challenger Series



Curtis Challenger luminaires are designed and engineered to provide a most economical and efficient method of obtaining the higher levels of illumination required for schools, offices, stores and other commercial interiors.

Materials and Finishes

Challenger luminaires are sturdily constructed of steel, finished with a high reflectance baked white enamel.

Wiring

These units are regularly supplied wired for 110-125 volt AC circuits, with high power factor ballasts. Each luminaire consumes approximately 95 watts. The units can also be supplied wired for other voltages with conventional type or instant starting ballasts. Prices for other voltages quoted upon application. Lamps and lamp starters are not supplied.

Pendant or Close-Ceiling Mounting as Individual Units or Continuous Lines

Challengers can be suspended from the ceiling by standard Curtis single or two stem hangers, or mounted directly to the ceiling with an attractive close ceiling mounting canopy.

The luminaire provides a most efficient and economical method of extending lines of light across the ceiling to obtain high levels of quality illumination. When installing continuous lines; much of the usual expenditure for conduit, outlet boxes and fittings is eliminated as the wiring channel of the luminaires, provides one continuous passage for a single branch circuit. Units are quickly joined end to end with connecting fittings supplied with either pendant or close-ceiling type hangers. Hangers must be ordered separately.

Ease of Maintenance

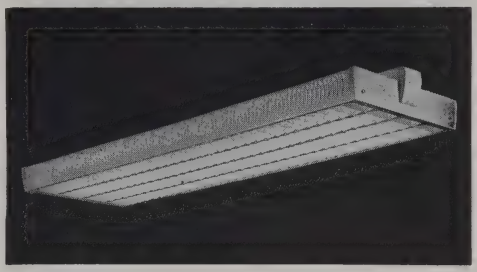
Louver is hinged so that it may be opened from either side for cleaning, relamping and replacement of starters. Maintenance is kept at a minimum as there are no horizontal reflecting or diffusing surfaces to collect dust.

Cat. No.	Lengthwise Shielding	No. and Type of Lamps	Dimens. in In. L.	W.	D.	Net Wt. Lbs.	Price
*3525-CLH	25°	2-40W, T-12	48⅛	12½	5½	28	$25.15
†3526-CLH	25°	2-85W, T-17	60⅛	12½	5½	33	41.75
*3545-CLH	45°	2-40W, T-12	48⅛	12½	5½	31	27.10

*35° crosswise shielding.

†25° crosswise shielding.

CURTIS FLUORESCENT LUMINAIRES
Anniversary Series



The "Anniversary," Catalog No. 51-CLH, is an exceptionally distinctive unit, particularly suited to the modern office and store.

The "Anniversary," Catalog No. 52-CLH, has the same over all appearance and dimensions as the Fifty-one except it is built to contain two four-foot fluorescent lamps and two incandescent spot or flood lamps.

An unusually decorative effect is created by the exclusive dart pattern louver. Vertically slotted side panels of the extremely shallow body shield the lamps and are made softly luminous by the reflected light.

Materials and Finishes

The "Anniversary" is made of steel with reflecting surfaces and louvers finished in white "Fluracite" enamel. End plates are finished light gray baked enamel with plastic ivorytone end ornaments.

Wiring

These units are regularly supplied wired for 110-125 volt 60 cycle AC circuits with two, two lamp high power factor, small cross section ballasts. They can also be supplied wired for other voltages; prices quoted on application. Lamps and lamp starters not supplied.

Pendant or Close Ceiling Mounting as Individual Units or Continuous Lines

Luminaires can be suspended from the ceiling by single or two stem hangers, or mounted directly to the ceiling with an attractive close-ceiling mounting canopy.

When installing units in continuous lines, much of the usual expenditure for conduit, outlet boxes and fittings is eliminated.

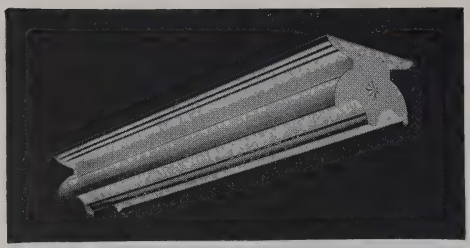
Luminaires are quickly and easily joined end to end with connecting fittings regularly supplied with either pendant or close-ceiling type hangers. Hangers must be ordered separately.

Ease of Maintenance

The louver is hinged so that it may be opened from either side for cleaning, relamping or replacement of starters.

Cat. No.	Description	Dimens. in Inches L.	W.	D.	Net Wt. Lbs.	Price
51-CLH	4-40W, T-12, 48" lamps	51⅝	18	4½	33	$63.25
52-CLH	2-40W, T-12, 48" lamps, 2-150W, Par 38 side prong spot or flood	51⅝	18	4½	35	88.35
631	Two stem Hanger-12" Suspension	.....	.....	.....	2	3.65
695	Close-ceiling canopy	51⅝	.....	7½	8	7.85
2233	Corner Downlight	8¼	.....	7⅜	4	16.35
2236	Inline Downlight	8⅝	18	4½	8	24.60
2251-CL	For L patterns	19¾	19¾	3	20	58.85
2251-CT	For T patterns	19¾	19¾	3	19	56.15
2251-CX	For X patterns	19¾	19¾	3*	19	56.75

CURTIS FLUORESCENT LUMINAIRES
Skylux Series



Curtis Skylux, utilizing two 40-watt, T-12, 48-inch fluorescent lamps, is a highly efficient luminaire recommended for store and office lighting. It combines the beauty of graceful design with low-brightness and high utilization of light output. Skylux luminaires are available with reflectors and lamps shields of Alzak processed aluminum or with steel reflectors and lamp shields finished in white "Fluracite" enamel.

Materials and Finishes

Catalog No. 980-C has reflectors and lamp shields finished in durable Alzak aluminum. Catalog No. 990-C has reflectors and lamp shields of steel finished white "Fluracite" enamel. Both units have steel end plates finished silver gray baked enamel with plastic ivorytone end ornaments.

Wiring

Curtis Skylux luminaires are regularly supplied wired for 110-125 volt AC circuits, with high power factor two lamp ballasts. Each unit consumes approximately 96 watts. Skylux luminaires can also be supplied wired for other voltages with conventional type or instant starting ballasts; prices quoted upon application. Lamps and lamp starters are not supplied.

Close-Ceiling Mounting as Individual Units or Continuous Lines

Curtis Skylux luminaires are designed for close-ceiling mounting as individual units or continuous lines. They provide a most economical method of extending lines of light across the ceiling to obtain high levels of quality illumination. When installing continuous lines, much of the usual expenditure for conduct, outlet boxes and fittings is eliminated as the wiring channel of the luminaire provides a continuous wireway. Skylux luminaires are quickly and easily joined end to end with connecting fittings supplied.

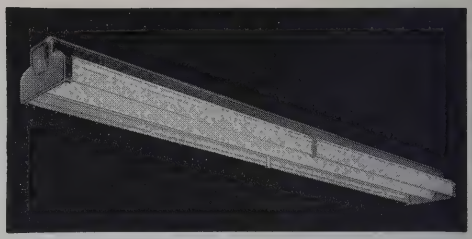
Curtis "Skylux" lends itself to attractive pattern installations when Cat. No. 2235 downlight is utilized. U, T, L and X designs can be created while providing "attractive zone" lighting for merchandise and displays.

Ease of Maintenance

Removal of one lamp shield and one reflector affords complete access to the wiring channel. Lamps and lamp starters are also easily removed for inspection, cleaning and replacement. Maintenance costs are kept at a minimum by absence of horizontal reflecting or diffusing surfaces which collect dust.

Cat. No.	Description	Dimens. in Ins. L.	W.	D.	Net Wt. Lbs.	Price
980C	Alzak Aluminum	48 11/16	11½	6⅞	22	**$34.85**
990C	Fluracite on Steel	48 11/16	11½	6⅞	28	**35.00**
2235	Inline or corner Downlight	12¾	12¾	7⅛	8	**20.15**

CURTIS FLUORESCENT LUMINAIRES
Store-Liter Series



The Curtis Store-liter is specifically designed for the modern Store. The high transmission plastic side panels give a bright, wide-awake appearance that attracts customers and sells merchandise. The Store-Liter features high levels of vertical and horizontal illumination, low installation and operating cost, ease of maintenance, and instant starting lamps.

Materials and Finishes

Wire channel and longitudinal V-bar reflectors are constructed of heavy gauge steel. Wire channel is finished light gray baked enamel; V-bar reflector finished baked white "Fluracite." End plates and mid point ribs are castings finished light gray. Side panels are fine-ribbed polystyrene plastic. End ornaments are ivory-tone plastic.

Wiring

Store-Liter luminaires are regularly supplied wired for 110-125 volt AC circuits, with high power factor 430 M.A. two-lamps ballasts. They can also be supplied for two T-8, slimline lamps with 120, 200 or 300 M.A. high power factor ballasts; prices on request. Lamps are not supplied.

Pendant or Close Ceiling Mounting as Individual Units or Continuous Lines

Store-Liter luminaires can be mounted directly to the ceiling with screws, toggle or expansion bolts, depending on ceiling construction. A three inch knockout is provided in the wire channel to mount luminaire directly to outlet box. To facilitate installation and to provide a small space between luminaire and ceiling, it may be desirable to use a specially designed sliding clamp hanger Cat. No. 1009. This clamp fits into grooves in the wiring channel and is securely tightened in the desired position by means of a single screw.

Where luminaires are to be pendant mounted, standard Curtis hangers are used with the sliding clamp hanger. Use of the sliding clamp hanger allows considerable flexibility in placement of hangers and permits by-passing of building construction obstacles, such as beams, sprinkler heads, etc.

When installing in continuous lines much of the usual expenditure for conduit, outlet boxes and fittings is eliminated as the wiring channel of the luminaires provides one continuous wireway.

Ease of Maintenance

Polystyrene side panels are quickly and easily removed for cleaning without the use of tools. Side panels are removed in the same manner as the lamps, i.e. push pull principle.

Cat. No.	Description	Dimens, In. L.	W.	D.	Net Wt. Lbs.	Price Each
7502CLH	2-75W, T12, 96"†	96¾	11⅞	6¾	52	**$69.75**
7504CLH	2-40W, T12, 48"†	48¾	11⅞	6¾	31	**42.40**
7507CLH	2-40W, T12, 48"‡	48¾	11⅞	6¾	27	**33.10**
7508CLH	4-40W, T12, 48"‡	96¾	11⅞	6¾	52	**61.00**
7512CLH	4-75W, T12, 96"†	96¾	11⅞	6¾	68	**86.65**
7514CLH	4-40W, T12, 48"†	48¾	11⅞	6¾	39	**53.30**
12025	8-ft. Louver	.....	.....	.....	6	**15.75**
12027	4-ft. Louver	.....	.....	.....	3	**9.60**
2235	Corner Downlight*	12¾	12¾	7⅛	9	**20.15**
2241	Inline Downlight*	12	11⅛	6¼	5	**14.90**

†Slimline Type. ‡Starter Type. *Par 38 150W Spot or Flood.

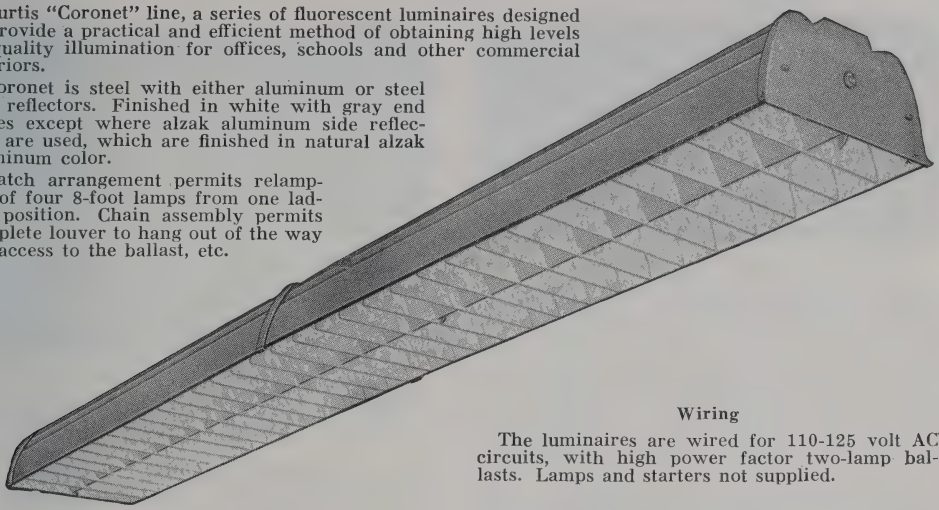
CURTIS FLUORESCENT LUMINAIRES

Coronet Series

Curtis "Coronet" line, a series of fluorescent luminaires designed to provide a practical and efficient method of obtaining high levels of quality illumination for offices, schools and other commercial interiors.

Coronet is steel with either aluminum or steel side reflectors. Finished in white with gray end plates except where alzak aluminum side reflectors are used, which are finished in natural alzak aluminum color.

Catch arrangement permits relamping of four 8-foot lamps from one ladder position. Chain assembly permits complete louver to hang out of the way for access to the ballast, etc.



Wiring

The luminaires are wired for 110-125 volt AC circuits, with high power factor two-lamp ballasts. Lamps and starters not supplied.

Cat. No.	Dimen. in Inches: Length	Width	Depth	Shielding: Cross-wise	Shielding: Length-wise	Wt. Lbs. Installed	Price
Eight Foot—For Two 72W, T-12, 96-inch Slimline Lamps							
3025	96 3/16	13 1/8	5 7/8	40°	25°	44	**$71.50**
8025						41	**77.75**
3040	96 3/16	13 1/8	5 7/8	40°	40°	48	**74.25**
8040						35	**80.50**
Eight Foot—For Four 40W, T-12, 48-inch Medium Bi-Pin Starter Type Lamp							
3028	96 3/16	13 1/8	5 7/8	40°	25°	45	**66.00**
8028						42	**72.25**
3048	96 3/16	13 1/8	5 7/8	40°	40°	49	**68.75**
8048						46	**75.00**
Six Foot—For Two 54W, T-12, 72-inch Slimline Lamps							
3026	72 3/16	13 1/8	5 7/8	40°	25°	36	**54.85**
8026						33	**60.35**
3046	72 3/16	13 1/8	5 7/8	40°	40°	40	**56.65**
8046						37	**62.15**
Five Foot—For Two 40W, T17, 60-inch Mogul Bi-Pin Low Brightness Lamps							
3024	60 3/16	13 1/8	5 7/8	40°	25°	34	**42.15**
8024						30	**46.65**
3044	60 3/16	13 1/8	5 7/8	40°	40°	36	**43.50**
8044						32	**48.00**
3042	60 3/16	13 1/8	5 7/8	40°	5°	31	**35.25**
8042						27	**38.50**

Cat. No.	Dimen. in Inches: Length	Width	Depth	Shielding: Cross-wise	Shielding: Length-wise	Wt. Lbs. Installed	Price
Five Foot—For Two 85W, T-17, 60-inch Mogul Bi-Pin Starter Type Lamps							
3021	60 3/16	13 1/8	5 7/8	40°	25°	38	**41.65**
8021						34	**46.15**
3041	60 3/16	13 1/8	5 7/8	40°	40°	40	**43.10**
8041						36	**47.60**
Four Foot—For Two 36W, T-12, 48-inch Slimline Lamps							
3023	48 3/16	13 1/8	5 7/8	40°	25°	28	**37.65**
8023						25	**40.75**
3043	48 3/16	13 1/8	5 7/8	40°	40°	30	**39.10**
8043						27	**42.15**
Four Foot—For Two 40W, T-12, 48-inch Medium Bi-Pin Starter Type Lamps							
3027	48 3/16	13 1/8	5 7/8	40°	25°	24	**29.40**
8027						21	**32.60**
3047	48 3/16	13 1/8	5 7/8	40°	40°	26	**30.85**
8047						23	**33.90**

3000 series denotes—Baked 'Fluracite' enameled steel reflectors.
8000 series denotes—'Alzak' aluminum reflectors.

IN-LINE DOWNLIGHTS*

Alzak Aluminum Panels

Cat. No.	Dimensions in Inches: Length	Width	Depth	Wt. Lbs. Installed	Price
2242	8 5/8	13 1/8	5 7/8	6	**$18.75**

White Steel Panels

2243	8 5/8	13 1/8	5 7/8	7	**18.15**

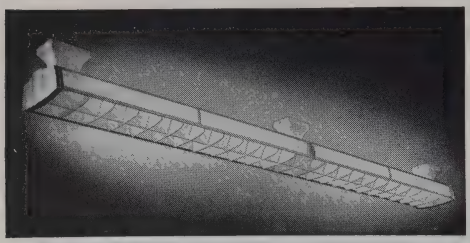
*Use one par-38 side prong, 150-watt projector or flood lamp. Lamp not supplied.

HANGERS AND MOUNTING CANOPIES

Cat. No.	Description	Type	Dimensions in Inches: Length	Width	Suspension	Price
628	Two Stem Hangers for use with	5′, 6′ and 8′ units	-------	-------	12	**$5.00**
631	Two Stem Hangers for use with	4′ units	-------	-------	12	**3.65**
634	Wire entrance hanger	-------	-------	-------	12	**1.75**
643	Canopy for mtg. 4′ units	any ceiling	48 3/16	8	3	**7.65**
644	Tong hanger with	1/2″ stem	-------	1/2	12	**2.35**
645	Tong hanger with	3/16″ rod	-------	3/16	12	**1.45**
646	Canopy for mtg. 6′ units	any ceiling	72 3/16	8	3	**13.15**
647	Canopy for mtg. 8′ units	any ceiling	96 3/16	8	3	**15.60**
650	Canopy for down light	any ceiling	8 5/8	8	3	**4.65**
660	Canopy for down light	replacing tile	8 5/8	12	3	**6.50**
663	Canopy for mtg. 4′ units	replacing tile	48 3/16	12	3	**9.85**
665	Canopy for mtg. 5′ units	replacing tile	60 3/16	12	3	**11.00**
666	Canopy for mtg. 6′ units	replacing tile	72 3/16	12	3	**14.65**
667	Canopy for mtg. 8′ units	replacing tile	96 3/16	12	3	**18.60**
699	Canopy for mtg. 5′ units	any ceiling	60 3/16	8	3	**8.60**
6436	Wire entrance fitting	order one with each individually mounted canopy				**.70**

WAKEFIELD DIRECT-INDIRECT LUMINAIRES

The GRENADIER II



No. 2 GRS-29643 (Slimline) Canopy Type

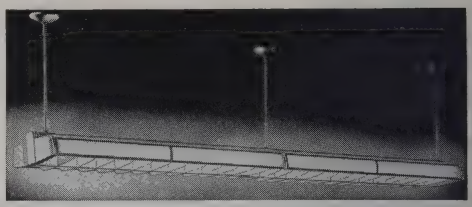
Merchandise sparkles, food is more appetizing, work is easier to see and do in the abundance of indirect and shielded direct light from Grenadier fixtures. Soft metallic satin finish on louvers and other metal parts, plus translucent white plastic side panels, give efficient diffusion of light. Available in three mountings: Stem, Canopy and On-Ceiling. On-Ceiling fixtures can be supplied with solid top-plate reflectors. Other styles available.

Grenadier II fixtures may be ordered to use two 4′ single pin or bi-pin lamps or two single pin 8′ fluorescent lamps. They may be mounted as single 4′ units, double units, or in continuous runs. Louvers provide shielding 35° normal to the lamp and 25° parallel, 45° parallel shielding available.

GRENADIER II PRICE TABLE

Catalog Number	No. 35 End Cap As'bly	Mounting	Over-all Suspension	Over-all Length	Price Each
On-Ceiling Style Using 2 40-W. Lamps					
		No. 41-A			
GRN-24840	1	2	5½″	4′-2¾″	$28.53
2 GRN-24840	1	3	5½″	8′-3½″	54.31
Add. for each unit over 2	0	1	5½″	4′-1 23/32″	25.78
Canopy Style Using 2 40-W. Lamps					
		No. 43			
GRN-24843	1	2	9″	4′-2¾″	$32.07
2 GRN-24843	1	3	9″	8′-3½″	59.62
Add. for each unit over 2	0	1	9″	4′-1 23/32″	27.55
Stem Style Using 2 40-W. Lamps					
		No. 12			
GRN-24812	1	1	25″	4′-2¾″	$31.56
		No. 44			
2 GRN-24844	1	3	25″	8′-3½″	58.27
Add. for each unit over 2	0	1	25″	4′-1 23/32″	27.10
On-Ceiling Style Using 2 T-12 Slimline Lamps					
		No. 41-A			
GRS-29640	1	3	5½″	8′-3 9/16″	$58.96
2 GRS-29640	1	5	5½″	16′-5¼″	115.17
Add. for each unit over 2	0	2	5½″	8′-1¾″	56.21
Add.for 4′ Unit GRS-248-B	0	1	5½″	4′-1 5/8″	34.35
Canopy Style Using 2 T-12 Slimline Lamps					
		No. 43			
GRS-29643	1	3	9″	8′-3 9/16″	$64.27
2 GRS-29643	1	5	9″	16′-4¾″	124.02
Add. for each unit over 2	0	2	9″	8′-1¾″	59.75
Add. for 4′ Unit GRS-248-B	0	1	9″	4′-1 5/8″	36.12
Stem Style Using 2 T-12 Slimline Lamps					
		No. 44			
GRS-29644	1	3	25″	8′-3 9/16″	$62.92
2 GRS-29644	1	5	25″	16′-4¾″	121.77
Add. for each unit over 2	0	2	25″	8′-1¾″	58.85
Add. for 4′ Unit GRS-248-B	0	1	25″	4′-1 5/8″	35.67

The GRENADIER IV



No. GRS-49644 (Slimline)

Four Slimline or 40W lamps in the Grenadier IV give an abundance of light—and are recommended for large rooms to obtain excellent results with a minimum of units. They maintain a "family resemblance" with Grenadier II's, since they are alike except for width. Available in Stem and On-Ceiling mountings, with top plate reflectors as indicated for Grenadier II's. Each style may be installed as units or in continuous runs. Parts from factory or GESCO stocks are interchangeable.

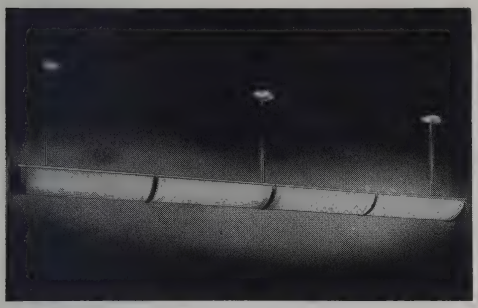
GRENADIER IV PRICE TABLE

Catalog Number	No. 45A End Cap As'bly	Mounting	Over-all Suspension	Over-all Length	Price Each
On-Ceiling Style Using 4 40-W. Lamps					
		No. 41-A			
SEN-44840	0	2	6″	4′-1″	$47.22
2 GRL-44840	1	3	6″	8′-2 9/16″	93.73
Add. for each unit over 2	0	1	6″	4′-1 25/32″	45.27
5″ Stem Style Using 4 40-W. Lamps					
		No. 34			
SEN-44834	0	2	25″	4′-1″	$49.16
2 GRL-44834	1	3	25″	8′-2 9/16″	96.64
Add. for each unit over 2	0	1	25″	4′-1 25/32″	46.24
20″ Stem Style Using 4 40-W. Lamps					
		No. 12			
SEN-44812	0	1	25″	4′-1″	$50.25
		No. 44			
2 GRL-44844	1	3	25″	8′-2 9/16″	97.69
Add. for each unit over 2	0	1	25″	4′-1 33/32″	46.59
On-Ceiling Style Using 4 T-12 Slimline Lamps					
		No. 41-A			
GRS-49640	1	3	6″	8′-3 9/16″	$104.43
2 GRS-49640	1	5	6″	16′-5¼″	205.67
Add. for each unit over 2	0	2	6″	8′-2 9/16″	101.24
Add. for 4′ Unit GRS-448-B	0	1	6″	4′-1¾″	61.93
5″ Stem Style Using 4 T-12 Slimline Lamps					
		No. 34			
GRS-49634	1	3	25″	8′-3 9/16″	$107.34
2 GRS-49634	1	5	25″	16′-5¼″	210.52
Add. for each unit over 2	0	2	25″	8′-2 9/16″	103.18
Add. for 4′ Unit GRS-448-B	0	1	25″	4′-1¾″	62.90
20″ Stem Style Using 4 T-12 Slimline Lamps					
		No. 44			
GRS-49644	1	3	25″	8′-3 9/16″	$108.39
2 GRS-49644	1	5	25″	16′-5¼″	212.27
Add. for each unit over 2	0	2	25″	8′-2 9/16″	103.88
Add. for 4′ Unit GRS-448-B	0	1	25″	4′-1¾″	63.25

WAKEFIELD LUMINOUS-INDIRECT LUMINAIRES

THE STAR

For Two 40-watt Bi-pin or Two or Four Single Pin Slimline Lamps



No. 2 STA-24814

For classrooms, drafting rooms, office and other areas where critical visual tasks are performed.

Advantages:

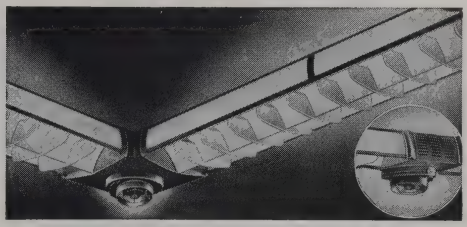
1. Makes ceiling principal light source, with luminaire and sidewalls becoming secondary source.
2. Lamps completely shielded, thus practically eliminating direct and reflected glare and sharp brightness contrasts.

The Star is available in single mountings, double mountings, or in continuous runs. Continuous runs can be made from GESCO stocks of bodies, reflectors, stems and caps. The molded reflector is translucent Plaskon. Reflectors are held in place by white enamel supporting bands, and are easily slid in and out of place for maintenance without disassembly of the unit. Lamps accessible from top without removing reflector. Stems and canopy are finished satin aluminum.

Star Price Table

Catalog Number	No. 15 End Cap As'bly	Mount-ing	Over-all Sus-pen-sion	Over-all Length	Price Each
Stem Style Using 2 40-W. Lamps					
	No. 12				
STA-24812	1	1	24″	4′-2″	**$46.08**
	No. 14				
2 STA-24814	1	3	24″	8′-2⅞″	**84.33**
Add. for each unit over 2	0	1	24″	4′-1 7/16″	**38.16**
Stem Style Using 4 T-8 Slimline Lamps					
	No. 15-A	No. 14			
STA-30014	1	3	24″	8′-2⅞″	**$126.00**
2 STA-30014	1	5	24″	16′-3¾″	**244.32**
Add. for each unit over 2	0	2	24″	8′-2⅞″	**118.32**
Add. for 6′ Unit **STA-472-B**	0	1	24″	6′-1⅝″	**111.99**
Stem Style Using 2 T-12 Slimline Lamps					
	No. 15-A	No. 14			
STS-29614	1	3	24″	8′-2⅞″	**$ 86.75**
2 STS-29614	1	5	24″	16′-3¾″	**165.82**
Add. for each unit over 2	0	2	24″	8′-2⅞″	**79.07**
Add. for 4′ Unit **STS-248-B**	0	1	24″	4′-1 7/16″	**45.10**

"SPOTS" FOR GRENADIERS II and IV



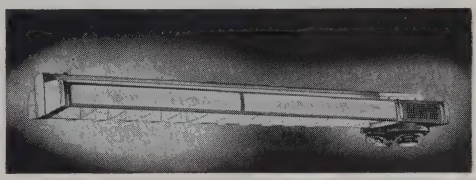
No. C-1150 No. 1150-B

The Grenadier II
In Line and Corner Spots for Grenadier II

For classrooms, drafting rooms, office and other areas where critical visual tasks are performed.

Advantages:

1. Makes ceiling principal light source, with luminaire and sidewalls becoming secondary source.
2. Lamps completely shielded, thus practically eliminating direct and reflected glare and sharp brightness contrasts.



The Grenadier IV Spot
No. 2150-B

Grenadier "Spots" provide concentrated points of light for sale or display, and combine with Grenadiers II or IV to provide Over-All and "spot" lighting in a single fixture.

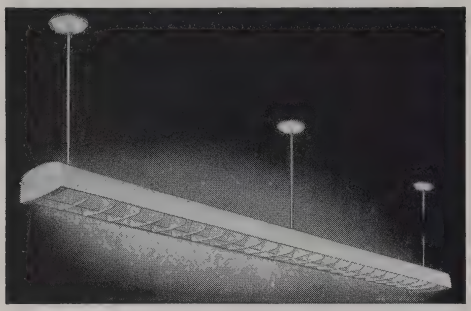
The Grenadier II "Spot" has one light, the Grenadier IV has two, in either straight-run or corner "spots". The "Spots" take 150-watt par-38 side-prong base projector lamps, inserted in gimbals permitting 35° adjustment in any direction. The lamps have 45° shielding. Body is finished in Grenadier metallic satin to match the fixtures.

Catalog Number	No. of Lamps	Unit Depth	Over-all Length	Price Each
(Spots for Grenadier II — Less Lamp)				
1150-B	1-150 W	7″	8″	**$11.34**
(Corner Spot for Grenadier II — Less Lamp)				
C-1150	1-150 W	7″	8″	**$23.58**
(Spots for Grenadier IV — Less Lamp)				
2150-B	2-150 W	7″	8″	**$17.66**

WAKEFIELD PACEMAKER LUMINAIRES

THE PACEMAKER

For Two 40-watt Bi-pin Lamps

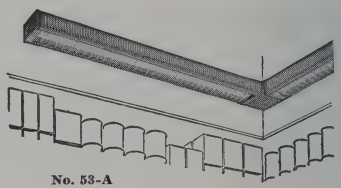


The Pacemaker offers quality in construction and lighting performance at a low price. Available in suspension, canopy, and on-ceiling models, and also in continuous runs. Single 4′ double-stem unit suitable for corridors and small rooms.

All metal parts processed with Duridine to provide correct surface for durable finish. Lamps are readily removed and replaced; starters available without removing lamps. Louvers provide 25°–35° shielding. ETL approved brick type ballasts, mounted tightly against channel to secure greater heat dissipation and cool operation.

Catalog Number	Mounting	Over-all Suspension	Over-all Length	Price Each
On-Ceiling Style Using 2 40-W. Lamps				
	No. 40			
GOE-24840	2	5″	4′-1 1/16″	**$20.94**
2 GOE-24840	3	5″	8′-3/4″	**41.60**
Add. for each unit over 2	1	5″	4′-1 1/16″	**20.66**
5″ Stem Style Using 2 40-W. Lamps				
	No. 34			
GOE-24834	2	10″	4′-1 1/16″	**$22.88**
2 GOE-24834	3	10″	8′-3/4″	**44.51**
Add. for each unit over 2	1	10″	4′-1 1/16″	**21.63**
20″ Stem Style Using 2 40-W. Lamps				
	No. 12			
GOE-24812	1	24″	4′-1 1/16″	**$23.97**
	No. 44			
2 GOE-24844	3	24″	8′-3/4″	**45.56**
Add. for each unit over 2	1	24″	4′-1 1/16″	**21.98**
On-Ceiling Style Using 2 T-12 Slimline Lamps				
	No. 41-A			
GOS-29640	3	5″	8′-1 7/16″	**$47.47**
2 GOS-29640	5	5″	16′-2 3/4″	**94.66**
Add. for each unit over 2	2	5″	8′-1 7/16″	**47.19**
Add. for 4′ Unit				
GOS-248-B	1	5″	4′-3/4″	**28.27**
5″ Stem Style Using 2 T-12 Slimline Lamps				
	No. 34			
GOS-29634	3	10″	8′-1 7/16″	**$50.38**
2 GOS-29634	5	10″	16′-2 3/4″	**99.51**
Add. for each unit over 2	2	10″	8′-1 7/16″	**49.13**
Add. for 4′ Unit				
GOS-248-B	1	10″	4′-3/4″	**29.24**
20″ Stem Style Using 2 T-12 Slimline Lamps				
	No. 44			
GOS-29644	3	24″	8′-1 7/16″	**$51.43**
2 GOS-29644	5	24″	16′-2 3/4″	**101.26**
Add. for each unit over 2	2	24″	8′-1 7/16″	**49.83**
Add. for each 4′ Unit				
GOS-248-B	1	24″	4′-3/4″	**29.59**

CURTIS "WALL-STRIP" UNIT



No. 53-A

Curtis "Wall-Strip" is a cleverly designed wall unit which utilizes one 40-watt T-12, 48-inch fluorescent lamp. It is used for perimeter lighting of areas or for illuminating shelves, wall cases, etc. The unit is designed so that a portion of the light is directed to the ceiling and diffused into the sales area. It can be mounted to the wall at any desired distance from the ceiling, either as individual units or continuous lines. Easy, quick installation. Can be relamped from above or below.

Materials and Finishes: Steel side panel and louver finished baked white Fluracite. Steel end plates are finished light gray. End ornaments are Ivorytone plastic.

Wiring: Luminaires are regularly supplied wired for 110-125 volt AC circuits, with uncorrected power factor ballasts. Each luminaire consumes approximately 50 watts. Can be supplied wired for other voltages; prices quoted upon application. Lamps and lamp starters are not supplied.

Dimensions and Weight: "Wall-Strip" is 50½ inches long, including end ornaments; 3 inches deep (vertical); and projects 5 inches from the mounting surface. Net weight is 12 pounds.

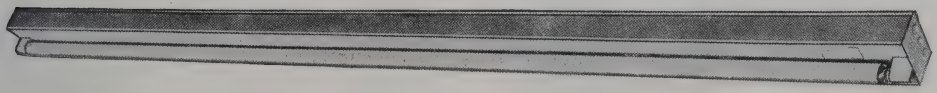
Maintenance: Louver is hinged so that it may be opened or completely removed for cleaning, relamping, or replacement of starters. Unless mounted directly against ceiling, "Wall-Strip" may be relamped from above or below.

No. 2239 is a small rectangular box designed to provide a neat method of turning corners. Fastens directly to ends of Curtis "Wall-Strip" with fittings supplied.

Cat. No.	Description	Std. Pkg.	Price Each
53-A	Wall-Strip	1	**$20.85**
2239	Rectangular Box	2	**3.60**

CURTIS MOGUL CURTISTRIP

SINGLE LAMP WIRED UNITS

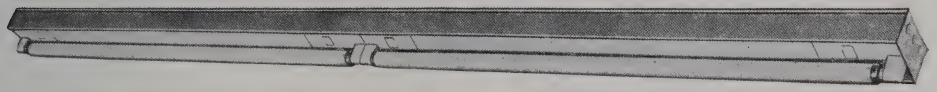


Decorative Type Mogul Fluorescent Curtistrip units are recommended for exposed-to-view applications. All component parts constructed of heavy gauge steel. Wire channel and end plates finished baked gray enamel. Lampholder mounting plates and fill-in cover finished in durable baked white "Fluracite" enamel. Supplied completely wired with high power factor single lamp ballasts.

Economy Type Mogul Fluorescent Curtistrip units are recommended for locations where finish is not a primary consideration, such as industrial locations, cove lighting, etc. All component parts constructed of heavy gauge steel. Wire channel, end plates, lampholder mounting plates and fill-in cover finished rust-proof zinc grip. Supplied completely wired with high power factor single lamp ballasts.

No. and Type of Lamps	Weight Installed	Basic Units Decorative Type Cat. No.	Price	Basic Units Economy Type Cat. No.	Price
One 36 Watt, T-12, 48-inch Slimline	25 lbs.	1201-C4′	$29.15	1301-C4′	$27.35
One 85 Watt, T-17, 60-inch Mogul Bi-Pin	28 lbs.	1202-C5′*	32.00	1302-C5′*	29.90
One 40 Watt, T-17, 60-inch Low-Brightness	28 lbs.	1203-C5′	31.10	1303-C5′	29.00
One 54 Watt, T-12, 72-inch Slimline	32 lbs.	1204-C6′	36.40	1304-C6′	33.85
One 72 Watt, T-12, 96-inch Slimline	40 lbs.	1205-C8′	39.90	1305-C8′	36.60
One 40 Watt, T-12, 48-inch Medium Bi-Pin	18 lbs.	1206-C4′*	20.85	1306-C4′*	19.15

TWO LAMP IN-LINE WIRED UNITS

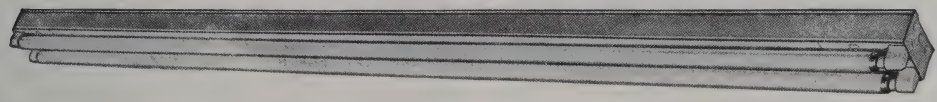


Decorative Type Mogul Fluorescent Curtistrip units are recommended for exposed-to-view application. All component parts constructed of heavy gauge steel. Wire channel and end plates finished baked gray enamel. Lamp holder mounting plates and fill-in cover finished in durable baked white "Fluracite" enamel. supplied completely wired with high power factor two lamp ballasts.

Economy Type Mogul Fluorescent Curtistrip units recommended for locations where finish is not a primary consideration, such as industrial locations, cove lighting, etc. All component parts constructed of heavy gauge steel. Wire channel, end plates, lamp holder mounting plates and fill-in cover finished rust-proof zinc grip. Supplied completely wired with high power factor two lamp ballasts.

No. and Type of Lamps	Weight Installed	Basic Units Decorative Type Cat. No.	Price	Basic Units Economy Type Cat. No.	Price
Two 36 Watt, T-12, 48-inch Slimline	36 lbs.	1201-C8′	$37.00	1301-C8′	$34.00
Two 85 Watt, T-17, 60-inch Mogul Bi-Pin	49 lbs.	1202-C10′*	49.40	1302-C10′*	45.65
Two 40 Watt, T-17, 60-inch Low-Brightness	43 lbs.	1203-C10′	39.75	1303-C10′	35.90
Two 54 Watt, T-12, 72-inch Slimline	53 lbs.	1204-C12′	54.50	1304-C12′	49.60
Two 72 Watt, T-12, 96-inch Slimline	66 lbs.	1205-C16′	62.40	1305-C16′	55.90
Two 40 Watt, T-12, 48-inch Medium Bi-Pin	34 lbs.	1206-C8′*	30.90	1306-C8′*	27.75

TWIN LAMP WIRED UNITS (TWO LAMPS PARALLEL)



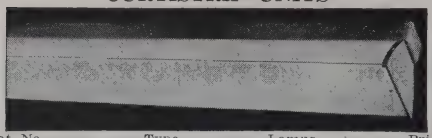
Decorative Type Mogul Fluorescent Curtistrip units are recommended for exposed-to-view application. All component parts constructed of heavy gauge steel. Wire channel and end plates finished baked gray enamel. Lampholder mounting plates and fill-in cover finished in durable baked white "Fluracite" enamel. Supplied completely wired with high power factor two lamp ballasts.

Economy Type Mogul Fluorescent Curtistrip units are recommended for locations where finish is not a primary consideration, such as industrial locations, area lighting, etc. All component parts constructed of heavy gauge steel. Wire channel, end plates, lamp holder mounting plates and fill-in cover finished rust-proof zinc grip. Supplied completely wired with high power factor two lamp ballasts.

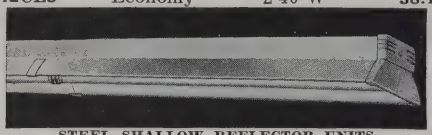
No. and Type of Lamps	Weight Installed	Basic Units Decorative Type Cat. No.	Price	Basic Units Economy Type Cat. No.	Price
Two 36 Watt, T-12, 48-inch Slimline	24 lbs.	1213-C4′	$29.00	1313-C4′	$27.35
Two 85 Watt, T-17, 60-inch Mogul Bi-Pin	33 lbs.	1214-C5′*	38.65	1314-C5′*	36.75
Two 40 Watt, T-17, 60-inch Low-Brightness	27 lbs.	1215-C5′	29.00	1315-C5′	27.00
Two 54 Watt, T-12, 72-inch Slimline	32 lbs.	1216-C6′	40.85	1316-C6′	38.25
Two 72 Watt, T-12, 96-inch Slimline	39 lbs.	1217-C8′	44.35	1317-C8′	41.00
Two 40 Watt, T-12, 48-inch Medium Bi-Pin	22 lbs.	1212-C4′	22.75	1312-C4′*	21.10

*Require Starters.

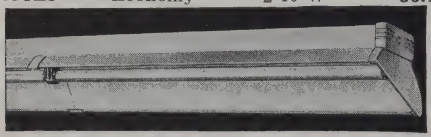
CURTISTRIP UNITS



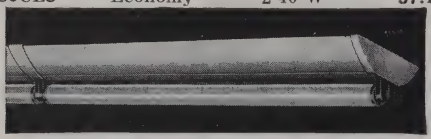
Cat. No.	Type	Lamps	Price
STEEL DEEP REFLECTOR UNITS			
924C3′	Decorative	30-W	$23.35
924C4′	Decorative	40-W	24.75
924C8′	Decorative	2 40-W	36.75
924CE8′	Decorative	2 40-W	32.10
942C3′	Economy	30-W	20.90
942C4′	Economy	40-W	21.75
942C8′	Economy	2 40-W	38.25
942CE8′	Economy	2 40-W	38.15



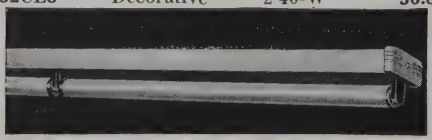
STEEL SHALLOW REFLECTOR UNITS			
925C3′	Decorative	30-W	21.85
925C4′	Decorative	40-W	22.50
925C8′	Decorative	2 40-W	33.85
925CE8′	Decorative	2 40-W	29.50
946C3′	Economy	30-W	20.35
946C4′	Economy	40-W	20.85
946C8′	Economy	2 40-W	36.40
946CE8′	Economy	2 40-W	36.10



STEEL ASYMMETRIC REFLECTOR UNITS			
926C3′	Decorative	30-W	22.90
926C4′	Decorative	40-W	23.90
926C8′	Decorative	2 40-W	35.60
926CE8′	Decorative	2 40-W	30.50
950C3′	Economy	30-W	20.50
950C4′	Economy	40-W	21.10
950C8′	Economy	2 40-W	37.15
950CE8′	Economy	2 40-W	37.10



STEEL WINGED-BACK REFLECTOR UNITS			
952C3′	Decorative	30-W	21.50
952C4′	Decorative	40-W	22.15
952C8′	Decorative	2 40-W	37.50
952CE8′	Decorative	2 40-W	36.85



STEEL REFLECTOR UNITS			
927C3′	Decorative	30-W	16.60
927C4′	Decorative	40-W	17.35
927C8′	Decorative	2 40-W	25.50
927CE8′	Decorative	2 40-W	24.65
956C3′	Economy	30-W	16.15
956C4′	Economy	40-W	17.15
956C8′	Economy	2 40-W	29.35
956CE8′	Economy	2 40-W	28.90

CURTISTRIP FITTINGS AND ACCESSORIES

DESCRIPTION AND PRICES

No. 5. Porcelain receptacle with shade holder groove $0.83

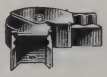
No. 5-A. Special porcelain socket (no shade holder groove) for use with "X-Ray" screw engaging holders $1.00

No. 6. End cap to close and finish end of CurtiStrip. Provided with ⅞" knockout for ½" conduit (can be reamed to ¾" for lead-in circuit $0.33

No. 9. Strap for holding CurtiStrip against any flat surface. Overall spread 3⅜". Holes on 3⅝" centers $0.22

No. 12. Service box. Top removable. Has four 1⅛" knockouts (bottom, end, and two sides) for ¾" conduit. May be reamed up to 1½" $2.50

No. 13. Bracket to hang CurtiStrip on pipe or chain hanger. Height top to bottom 3" $0.78



No. 14. Elbow adjustable from 70° to 180°. Cover is removable and eliminates fishing of wires. Separable body permits using elbow as splice box $3.75

No. 16. Coupling used for connecting two pieces of CurtiStrip. Does not reduce size of wireway or interfere with use of CurtiStrip sockets $0.42

No. 19. Nipple Attachment (⅜" female thread) $0.93

No. 19BX. Attachment for ½" BX or ½" socket (with chase nipple) $0.75

No. 20. Single receptacle plate. Takes all standard receptacles $0.68

No. 21. Switch plate. Takes standard toggle switch $0.68

No. 23. Duplex receptacle plate. Takes all standard receptacles $0.68

No. 24. Bracket assembly for mounting CurtiStrip out from transom bar or for suspending from ceiling. Includes ⅜" nipple 6¼" long with two locknuts and No. 13 Bracket $1.85

No. 31. Plain bushed end cap. For flexible cord connection. Not listed by the Underwriters' Laboratories, Inc. $0.55

No. 46. Extended end cap, extends ⅝" beyond end of channel permitting direct conduit connections $0.47

No. 181. Ballast holder strap. Two are needed for each ballast. Can also be used to clamp No. 16 coupling into CurtiStrip without screws $0.32

No. 501. Decorative end cap. Cast in modern tailored design, this end cap gives a finished appearance to unit. Always use No. 501 when unit is to be suspended with hangers having angle fittings $1.15

PARTS FOR FLUORESCENT CURTISTRIP

FILL-IN COVERS

Cat. No.	Length	Finish	Std. Pkg. Lengths	Price Each
798*	39"	Fluracite (white)	20	**$0.93**
1-B	10'	Plain rust-resisting	10	**1.85**

*No. 798 is machine-scored at 3-inch intervals.

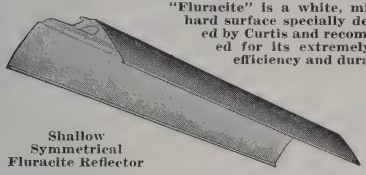
BALLAST HOLDER STRAPS

Two ballast holder straps are needed when ballast is mounted in CurtiStrip.

Price, No. **181** Ballast Holder Strap.....each **$0.32**

No. **9** Strap for Holding Curtistrip against any flat surface .....each **$0.22**

FLURACITE REFLECTORS



"Fluracite" is a white, mineral-hard surface specially developed by Curtis and recommended for its extremely high efficiency and durability.

Shallow Symmetrical Fluracite Reflector

These reflectors are made of steel and are finished snow-white "Fluracite" inside and out. Their contours reflect the light of the fluorescent lamp with maximum efficiency. Provided with hole for starter.

Alzak Aluminum Reflectors are similar to those above but are aluminum with diffuse Alzak aluminum finish.

Fluracite Reflectors

Length Inches	Std. Pkg.	Deep Symmetrical Semi-Concentrating Cat. No.	Price Each	Shallow Symmetrical Distributing Cat. No.	Price Each	Asymmetrical Directional Type Cat. No.	Price Each
18	10	**245**	**$2.60**	**256**	**$2.10**	**249**	**$2.25**
24	10	**246**	**3.10**	**257**	**2.40**	**250**	**2.75**
36	10	**247**	**4.00**	**258**	**3.50**	**251**	**3.65**
48	10	**248**	**4.90**	**259**	**4.00**	**252**	**4.50**
		Alzak Aluminum Reflectors					
18	10	**102**	**3.40**	**114**	**2.60**	**106**	**2.75**
24	10	**103**	**4.25**	**115**	**3.25**	**107**	**3.50**
36	10	**104**	**5.90**	**116**	**4.65**	**108**	**5.10**
48	10	**105**	**8.50**	**117**	**6.65**	**109**	**7.35**

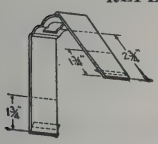
REFLECTOR END PLATES

These end plates, if used, close ends of the reflectors and provide extra strength and rigidity.

Baked gray enamel finish.

Type	Cat. No.	Std. Pkg.	Price Each
Deep	**502**	10	**$1.50**
Shallow	**503**	10	**1.20**
Asymmetrical (right end)	**504**	10	**1.60**
Asymmetrical (left end)	**505**	10	**1.60**

REFLECTOR CONNECTOR



In continuous runs of all types of reflector assemblies between reflectors, connectors should be used to cover reflector joint. The connector is a soft metal strap which fits over two adjoining sockets and is bent over reflector, making a neat joint and preventing light leakage. No. 129 is used with all types of reflectors. Finish is Satin Aluminum. Standard package, 20.

Price

No. **129** Connector for reflectors.....each **$0.37**

CURTIS "X-RAY" SHOW WINDOW LIGHTING

An "X-Ray" Reflector has been scientifically designed by Curtis for each type of light control. All "X-Ray" Reflectors have a pure silver reflecting surface and an exterior coating of Golden Armor which is guaranteed to protect the reflector against tarnishing, cracking, peeling, blistering or discoloring.

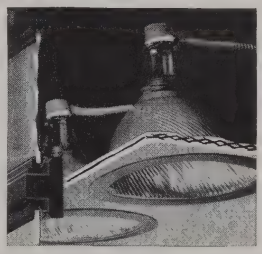
Price, No. **500** "King" for 300, 200, or 150-watt Medium Base lamp. Holder included. Dimensions: Width 10 inches; Depth, front to back, 10½ inches; Height, with holder 10 inches..... **$7.00**

Price, No. **530** "Monarch" for 300, 200, or 150-watt Medium Base lamp. Holder included. Dimensions: Diam. 9¾ inches; Height, with holder, 9⅛ inches **$6.50**

Price, No. **420** "Master" for 150 or 100-watt lamp. Holder included. Dimensions: Diam. 8⅝ inches; Height, with holder, 7⅞ inches.....**$5.65**

Price, No. **1010** "Blimp" for 500 or 300-watt Mogul Base lamp. Holder and socket included. Dimensions: Diam. 13 inches; Height with holder and socket, 12⅝ inches.....**$14.40**

RECESSING WINDOW REFLECTORS



Finishing Flanges and plaster-rings are used in recessing "X-Ray" Reflectors above the show window ceiling. On wood or board ceilings, flanges only are used to finish off the opening and to support the reflector in the proper position. The exposed face of the flange may be painted at the same time as the ceiling. When recessing is done in plaster ceilings, it is necessary to use a plaster-ring as a frame for the opening and it also serves as a base for mounting the finishing flange.

Finishing Flanges

Cat. No.	For Reflector	Std. Pkg. of 10 Weighs Lbs.	Price Each
10517	420 Master	5*	**$1.60**
11500	500 King	22*	**4.60**
14026	530 Monarch	6*	**2.25**
14110	1010 Blimp	26*	**2.25**

Plaster-Rings

14027	for 420	7*	**1.30**
14028	for 530 Monarch	7*	**1.40**
14111	for 1010 Blimp	26*	**1.85**

Louvers for "X-Ray" Show Window Reflectors

12420	No. 420 Master	1	**5.90**
12531	No. 530 Monarch	1	**5.90**

*These items are bulk packed. Number shown as standard package is standard quantity for pricing purposes only.

WIREMOLD FLUORESCENT STRIP AND FITTINGS

No. 3000 FLUORESCENT STRIP

White Finish

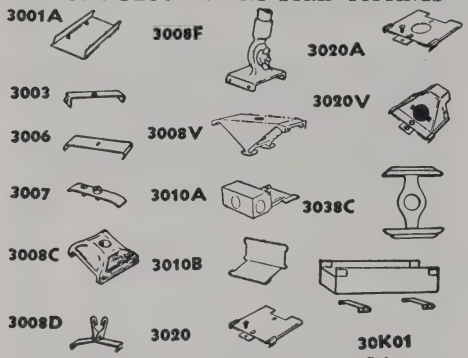
2¾ inches wide.

1 7/16 inches deep.

3000B and 3000C furnished in 8-foot lengths.

	3000B Channel	3000C Cover
List price .....per ft.	$ .55	$ .282
Weight per 80 ft.....	65 lbs.	35 lbs.

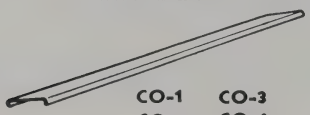
No. 3000 FLUORESCENT STRIP FITTINGS



Cat. No.	Fitting	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
*3001A	Rigid Inside Coupling	10	2	2	$20.00
3003	Supporting Clip	50	5	2½	20.20
3006	Cover Clip	40	10	1½	4.00
*3007	Auxiliary Clamp	20	2	1	15.60
3008C	Hanger Casting (Tapped for ½" Conduit)	4	1	7½	183.00
3008D	Loop Hanger	20	2	1¾	36.50
3008F	Adjustable Ratchet Hanger (Tapped for ½" Conduit)	5	1	6¼	274.40
3008V	90° Angle Hanger (Tapped for ⅜" Conduit)	1	....	¾	274.40
3010A	End Fitting, ½" K.O.	20	1	4	73.20
3010B	Blank End Fitting	20	5	2	27.50
3020	Lampholder Clamp	20	2	2½	44.40
3020A	Lampholder and Starter Base Clamp	20	2	3½	48.20
3020V	Lampholder Clamp (Double)	10	2	1¼	146.40
3038C	Outlet Box Adapter	4	1	1½	146.40
30K01	Ballast Housing Box (For Large Cross Section Tu-Lamp Ballast for 2-30W or 2-40W Lamps)	1	....	2½	365.90

No. 3000C COVER CUT TO LAMP LENGTH

White Finish



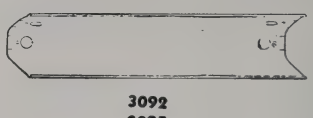
CO-1 CO-3
CO-2 CO-4

Cat. No.	Description	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
CO-1	For 18-inch Lamp....	10	1	7	$51.20
CO-2	For 24-inch Lamp....	10	1	9	69.60
CO-3	For 36-inch Lamp....	10	1	14	98.80
CO-4	For 48-inch Lamp....	10	1	18	131.60

*Unpainted.

WIREMOLD FLUORESCENT STRIP FITTINGS

REFLECTORS AND REFLECTOR PARTS



3092
3095

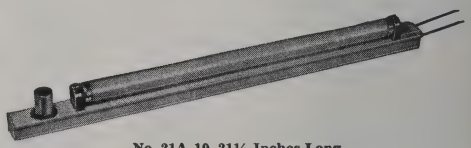
3092-E 3092-S

Length Inches	Std. Pkg.	Unit Pkg.	Specular *Ox-al-ite Cat. No.	Specular *Ox-al-ite Price Per 100	White Finish Cat. No.	White Finish Price Per 100
18	10	1	3092-18	$384.00	3095-18	$310.80
24	10	1	3092-24	497.50	3095-24	384.00
36	10	1	3092-36	669.60	3095-36	567.10
48	10	1	3092-48	1035.60	3095-48	731.80
End Cap	20	5	3092-E	84.00	.....	.....
Stop Gap	20	5	3092-S	31.10	.....	.....

*Reg. U.S. Pat. Off. Finished in Alzak Process (Alzak is a Registered Trademark of The Aluminum Company of America).

WIREMOLD No. 21A SERIES FLUORESCENT UNITS

15 Watt—White Finish



No. 21A-10, 21¼ Inches Long

Wiremold No. 21K25C control located in channel. 110-125 V., 60 cycle, Low Power Factor. Lamps not included. (Also available for operation on 110-125 V., 50 cycle. Prices on request.)

Cat. No.	Overall Length Inches	Std. Pkg.	Unit Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
	Combination Push Button Switch and Starter, 6 ft. cord and plug in ⅛-inch fiber Bushing No. 2110B Special. For one 15-watt T-8 lamp.				
21A-6	21	10	1	25½	$9.40
	FS-2 Starter. 6 ft. cord and plug in ⅛-inch bushing in No. 2110B Special. For one 15-watt T-8 lamp.				
21A-9	20	10	1	25	9.80
	FS-2 Starter. 3-inch leads in No. 2110A at end. For one 15-watt T-8 lamp.				
21A-10	21¼	10	1	24¼	9.60
	FS-2 Starters. 3-inch leads in No. 2110A at end. For two 15-watt T-8 lamps.				
21A-11	41¼	10	1	45¾	19.70
	FS-2 Starters. 3-inch leads in No. 2110A at end. For three 15-watt T-8 lamps.				
21A-13	61¼	5	1	35½	29.30
	FS-2 Starters. 3-inch leads in No. 2110A at end. For four 15-watt T-8 lamps.				
21A-14	81¼	3	1	28½	39.50
	FS-2 Starters. 3-inch leads in No. 2110A at end. For five 15-watt T-8 lamps.				
21A-15	101¼	3	1	34	48.80

Two mounting clips furnished with 21A-6, 21A-9, 21A-10, 21A-11; three with 21A-13 and 21A-14; four with 21A-15.

WIREMOLD FLUORESCENT UNITS

No. 21A SERIES FLUORESCENT UNITS

15 Watt—White Finish
ALUMINUM CONTINUOUS REFLECTORS

21A-92

21A90-L 21A90-R

Cat. No.	Description	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Each
21A91	1 Lamp Reflector	10	5	2	$1.20
21A91A	1 Lamp Reflector for 21A-6	10	5	2	1.20
21A92	2 Lamp Reflector	10	5	3	2.20
21A93	3 Lamp Reflector	10	5	5	3.90
21A94	4 Lamp Reflector	10	5	6½	5.00
21A95	5 Lamp Reflector	10	5	8	6.40
21A90L	Reflector End Cap(L)	20	5	½	.60
21A90R	Reflector End Cap(R)	20	5	½	.60

No. 21AR SERIES FLUORESCENT SHOWCASE UNITS

15 Watt—Pearl Gray Finish
Reflecting Surface, White

No. 21AR-10

Complete with Pearl Gray continuous reflector. Wiremold No. 21K25C control located in channel. 110-125 volt, 60 cycle, Low Power Factor Lamps not included. (Also available for operation on 110-125 volt, 50 cycle. Prices on application.)

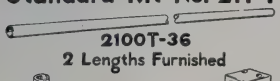
Cat. No.	Overall Length	Lamps No.	Lamps Size	Std. Pkg.	Pkg. Wt.	Price Each
With FS-2 Starters—3-Inch Leads in No. 2110A at One End						
21AR-10	21¼″	1	15WT-8	10	28½	$12.10
21AR-11	41¼″	2	15WT-8	10	56½	24.20
21AR-13	61¼″	3	15WT-8	3	26¼	36.20
21AR-14	81¼″	4	15WT-8	3	35	49.90
21AR-15	101¼″	5	15WT-8	3	42¾	59.60

Two mounting clips furnished with 21AR-10 and 21AR-11; three with 21AR-13 and 21AR-14; four with 21AR-15.

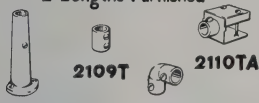
DOWN-TUBING KIT

Pearl Gray Finish

Standard Kit No. 21T-1



2100T-36
2 Lengths Furnished



2109T 2110TA
2108T 2111T

Additional Fittings for Installation Variations

2110T

2111T

For down feeding, remove No. 2110A End Fitting with which all 21A (and 21AR) Fluorescent Units are equipped and, depending on installation, substitute either No. 2110T 90° Swivel Elbow End Connector, or the No. 2110TA Straight End Connector.

Cat. No.	Description	Unit Pkg.	Std. Pkg.	Pkg. Wt.	Price Per 100
21T–1	Down-Tubing Kit	1	6	10½	$ 6.20*
2110T	Swivel End Connector	5	20	3	99.00
2111T	90° Elbow	5	20	3	74.80

*Price per kit.

WIREMOLD No. 2100 FLUORESCENT FITTINGS

Cat. No.	Fitting	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
2103A	Clip—Straight	20	5	¾	$18.50
2120	Receptacle Clamp	20	10	1	15.20
2126S	Slimline Lampholder (Low Voltage End)	5	1	¾	217.10
2126SA	Slimline Lampholder (High Voltage End)	5	1	1	231.00
2127FB	Flourescent Receptacle (Single)	8	2	½	46.20
2127FS	Flourescent Starter Switch Holder (For FS-2 or FS-4 Starter)	10	1	¾	73.70

REFLECTORS

Concentrating Type—Specular *Ox-al-ite

Cat. No.	For Lamp Length	For Lamp Type	Std. Pkg.	Wt. Lbs.	Price Per 100
2197-12	12″	Lumiline	10	1½	$166.10
2197-18	18″	Fluorescent or Lumiline	10	2	221.30
2197-36	36″	Fluorescent	10	4	405.90

Unit package, 5.

REFLECTOR PARTS

Cat. No.	Fittings	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
2197S	Reflec. Stop Gap	20	5	¼	$18.50
2197–3	Reflec. Spacer, 3⅝″ Long	10	1	2	83.80
2197–6	Reflec. Spacer, 6″ L.	10	1	2½	117.40
2197–9	Reflec. Spacer, 9″ L.	10	1	3	150.90

*Reg. U.S. Pat. Office. Finished in ALZAK Process (ALZAK is a registered trademark of the Aluminum Company of America).

COVER

For Fluorescent Lamps

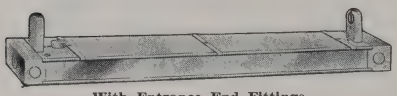
Cat. No.	Description	Std. Pkg.	Unit Pkg.	Std. Pkg. Wt.	Price Per 100
21213	For 18-inch Fluorescent Lamp	10	1	3¾	$50.40
21214	For 36-inch Fluorescent Lamp	10	1	7½	79.60

WIREMOLD FLUORESCENT UNITS

SINGLE LAMP—WIRED ASSEMBLIES

With Sockets, Control, and Starter Switch (Lamp not included)

110-125 Volts, 60 Cycle A.C.



With Entrance End Fittings

High Power Factor (90–100%) Recommended for General Use

Cat. No.	Lamp No.	Lamp Size	Overall Length	Wt. Lbs. Each	Price Each
With 2 No. 3010A Entrance End Fittings—½" K.O.					
1 H 11	1	18"–15 w	20½	5	**$14.40**
1 H 12	1	24"–20 w	26½	5½	**14.90**
1 H 13	1	36"–30 w	38½	8¾	**19.60**
1 H 14	1	48"–40 w	50½	10¼	**20.50**

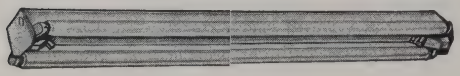
Low Power Factor (55–60% lagging) Use When Auxiliary Power Factor Correcting Equipment is Used

With 2 No. 3010A Entrance End Fittings—½" K.O.					
1 L 11	1	18"–15 w	20½	3¾	**$ 9.10**
1 L 12	1	24"–20 w	26½	4	**9.50**
1 L 13	1	36"–30 w	38½	7¼	**14.40**
1 L 14	1	48"–40 w	50½	8¾	**15.10**

All wired units will be furnished for 110-125 volts, 60 cycle AC unless otherwise specified.

DESIGN 22 FLUORESCENT UNITS

White Finish



Wired and assembled. With lampholders, ballast, and starter switches. (Lamps not included.)

"V" Type Cover (2 Lamps), with 2 No. 3010V End Fittings. High Power Factor, 110-125 V. 60 Cycle A.C.

Cat. No.	For Lamps No.	For Lamps Size	Wt. Lbs. Each	Price Each
22H24	2	48–40W	14	**$25.60**

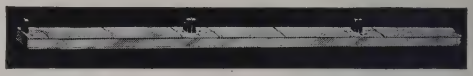
"V" Type Cover (4 Lamps), with 2 No. 3010V End Fittings. High Power Factor, 110-125 V. 60 Cycle A.C.

22H44	4	48–40W	28	**51.10**

PROMPT ATTENTION WILL BE GIVEN YOUR ELECTRICAL REQUIREMENTS — CONTACT OUR NEAREST OFFICE

WIREMOLD FLUORESCENT UNITS

FLUORESCENT LINE-O-LAMPS—WIRED



All Line-O-Lamps furnished with two No. 3010B Blank End fittings. When specified, No. 3010A Entrance End fittings with ½-inch knockout may be obtained at **$0.73** list per end extra. This will extend channel 1¼ inches.

Wired Assemblies furnished with Controls (for 60 cycle AC only, high power factor), Sockets, and Starter Switches (lamps and reflectors not included).

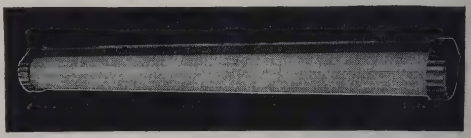
110-125 Volts, 60 Cycle A.C.

Cat. No.	Lamps No.	Lamps Size	Overall Length, Feet	Price Each
20 H 24	2	48"–40 watt	8	**$30.20**
20 H 24X*	2	48"–40 watt	8	**30.20**

*Extension unit. Similar to 20H24 except that it is furnished with a No. 3001A Rigid Coupling and with 6" wire leads coming out of each end. No end fittings furnished.

SEMI-DIRECT FLUORESCENT UNITS

Wired and Assembled



Semi-Direct (1 Lamp). High Power Factor 110-125 Volt, 60 Cycle A.C.

Cat. No.	For Lamps No.	For Lamps Size	Overall Length	Wt. Lbs. Each	Price Each
25H12	1	24"–20w	25⅝"	9	**$23.90**
25H13	1	36"–30w	37⅝"	12½	**30.00**
25H14	1	48"–40w	49⅝"	14½	**33.40**
***25L14**	1	48"–40w	49⅝"	13¾	**28.80**

*Low Power Factor.

Semi-Direct (2 Lamps). High Power Factor 110-125 Volt, 60 Cycle

25H24	2	48"–40w	97⅝"	22½	**56.40**
***25H24X**	2	48"–40w	97⅝"	22½	**54.00**

*Extension unit. Similar to 25H24 except that it is furnished with a No. 3001A Rigid Coupling, two No. 25S00 Center Castings, two No. 25R047 Translucent Shields, and 6-inch conductor leads coming out of each end.

FITTINGS FOR SEMI-DIRECT UNITS

No. 25E00 No. 25S00 No. 25E00

Cat. No.	Fitting	Lgth. In.	For Lamps	Pkg. Wt.	Price Each
***25E00**	End Casting	....	.....	5¾	**$2.50**
***25S00**	Center Casting	....	.....	3½	**2.20**
†25R023	Translucent Shield	23	24"–20w	7	**7.20**
†25R035	Translucent Shield	35	36"–30w	9	**9.60**
†25R047	Translucent Shield	47	48"–40w	12	**12.00**

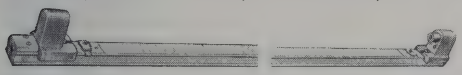
*Standard package 4. †Standard package 6.

WIREMOLD FLUORESCENT UNITS

DESIGN 21SW SLIMLINE UNITS

White Finish

Wired and Assembled. With Lampholders (Ballast and Lamp not included)



21SW42—21SW64

Cat. No.	Overall Length Inches	Lamps No.	Lamps Size	Unit Pkg.	Std. Pkg.	Price Each
21SW42	43¼	1	42T6	1	6	**$8.50**
21SW42X	42	1	42T6	1	6	**8.00**
21SW48	49¼	1	48T12	1	6	**10.10**
21SW48X	48	1	48T12	1	6	**9.80**
21SW64	65¼	1	64T6	1	6	**9.80**
21SW64X	64	1	64T6	1	6	**9.00**
21SW72	73¼	1	72T8 or 72T12	1	6	**10.90**
21SW72X	72	1	72T8 or 72T12	1	6	**10.20**
21SW96	97¼	1	96T8 or 96T12	1	6	**12.40**
21SW96X	96	1	96T8 or 96T12	1	6	**11.70**

Catalog numbers without letter X designate units equipped with 1 No. 2110A End Connector and 1 No. 2110B Blank End Fitting.

Catalog numbers with letter X designate units without end fittings but equipped with 1 2101A Coupling for extension use.

REFLECTOR AND LAMPHOLDERS

Cat. No.	Fitting	Std. Pkg.	Price Per 100 Pieces
21S91	Reflector for 42-in. Lamp	6	**$209.00**
21S92	Reflector for 64-in. Lamp	6	**363.00**
2126S*	Slimline Lampholder, 660W, 250V (Low Voltage End)	5	**217.10**
2126SA*	Slimline Lampholder, 660W, 1000V. (High Voltage End)	5	**231.00**

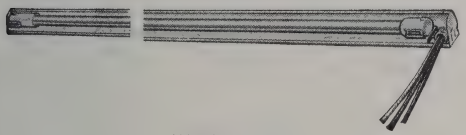
Unit package, 1.

*Designed for use with No. 2100 Raceway.

Reflectors for 72 and 96-inch lamps not available.

DESIGN 41SW SLIMLINE SHOWCASE UNITS

Pearl Gray Finish—Reflecting Surface, White



41SW44—41SW66

Units consist of one-piece base (with continuous reflector) and cover section to take lamp for which unit is designed. Equipped with lampholders and wired with No. 18, 600-volt 75° Type T white and red conductors with 5-ft. leads extending from one end. Ballast box for housing 200MA type ballast included. Lamps and ballasts not included.

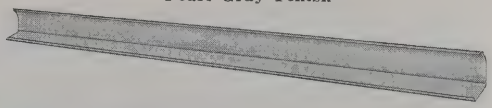
Cat. No.	Lamps No.	Lamps Size	Overall Length Inches	With Ballast Box No.	Std. Pkg.	Price Each
41SW44	1	42T6	43½	41K01	10	**$16.50**
41SW66	1	64T6	65½	41K01	10	**17.60**
41SW86	2	42T6	85½	41K01	5	**25.90**
41SW108	2	42T6-64T6	107½	41K03	5	**28.60**
41SW130	2	64T6	129½	41K02	5	**33.00**

Unit package, 1.

WIREMOLD FLUORESCENT UNITS

DESIGN 41SW SLIMLINE SHOWCASE PARTS

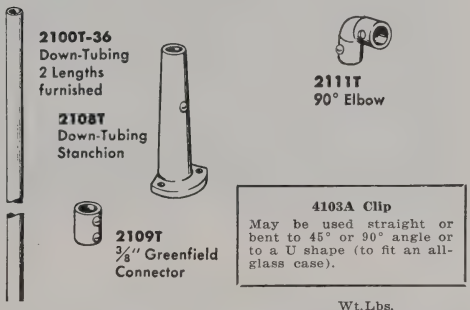
Pearl Gray Finish



No. 4100B Base. Reflecting surface white. 100 feet to carton. Weight per 100 ft., 29 lbs. (10 ft. lengths).....per foot **$0.792**

No. 4100C Cover (white finish). 100 feet to carton. Weight per 100 feet, 14 lbs. (5 foot lengths).....per foot **$0.264**

STANDARD KIT—No. 21T-1A

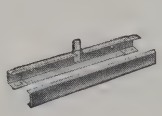


Cat. No.	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Per 100
21T-1A	Down-Tubing Kit	1	6	10	**$5.20***
4103A	Clip	10	20	¾	**34.70**
2111T	90 Degree Elbow	5	20	3	**74.80**

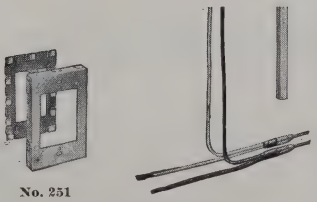
*Per kit.

TAKE-OFF KIT No. 200-19

(Wall Outlet to No. 1900)



1989-A



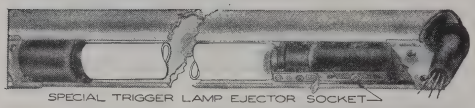
No. 251

Consists of one No. 251 Extension Adapter, one 15-inch length of No. 200 Wiremold, one No. 1989A Reducing Connector, and Wiring Harness of No. 12 Type R Conductors. Everything necessary to extend from existing wall outlet to No. 1900.

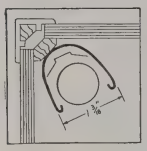
Price, No. **200-19** Take-Off Kit.....per 100 **$242.00**

GARCY Slimline SHOWCASE LIGHTING

Extra Small—For 42 Inch and 64 Inch Slimline Lamps



No. 4401 Series



Smaller size. Neater — less obstruction to view.

High efficiency white enamel or Garzal* reflecting surface.

For 42 inch or 64 inch Slimline lamps.

No starters required.

200 Milliamperes

Cat. No.	Lamps 42 In.	Lamps 64 In.	Minimum Length, In.	Price Each
4401-A	1	..	45⅞	**$46.20**
4401-B	..	1	67⅞	**53.10**
4401-C	2	..	90	**71.60**
4401-D	1	1	112	**79.30**
4401-E	..	2	134	**83.20**

Prices are for High Power Factor. For Low Power Factor write for prices. For lengths over minimum add **$0.20** per inch.

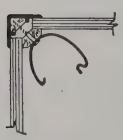
Wiring Plans: Price includes wiring "AR" which includes all necessary fittings; elbow, tubing, connectors, flexible conduit, ballast box, ballasts, switch; all completely wired. Lamps not included.

Finishes: Prices are for satin nickel or brushed bronze finish. For chrome plate add **$1.20** per foot.

Curves and Miters: Standard curves, 21½ inch radius. Write for quotation stating whether fluorescent or incandescent lighting is required in curved section.

Miters ..... each **$12.00**

Feed End: Outlets of showcase reflectors are always at right end unless otherwise specified.



No. 4403
For Wood Case

Mounting Clips

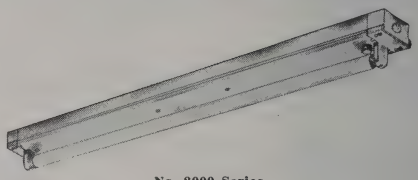
Clips for wood frame furnished unless otherwise ordered.

No. 4408
For Glass Case

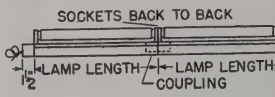
*® Garden City Plating & Mfg. Co.

GARCY Adda-Strip* LIGHTING ALL PURPOSE FLUORESCENT FIXTURE

Made for 18, 24, 36, 48 Inch and 2—36 or 2—48 Inch Lamps



No. 8000 Series



*Trade Mark Reg. U. S. No. 394-728

Garcy Adda-Strip* is designed for economy and ease of installation. Units may be mounted individually or in continuous runs. Removable end boxes are furnished with all but the 8-foot units. Couplings for continuous runs are included with 8-foot units, but end boxes must be ordered separately (two for each individual unit or continuous run).

Coupling extends 2″ into each wire channel, assuring perfect alignment and rigidity. It is completely concealed by the wiring channel and does not increase the overall length of the run.

Construction: Rolled edge channel and cover are of heavy gauge steel, finished baked white Garlite enamel. Snap-on cover is easily removed for access to wiring. Units are completely wired and assembled. Underwriters approved.

Low Power Factor

Cat. No.	Length Inches	Lamp	Std. Pkg.	Shpg. Wt. Lbs. Std. Pkg.	Price Each
8000-18L	21	1-15W	12	49	**$7.10**
8000-24L	27	1-20W	6	20	**7.38**
8000-36L	39	1-30W	6	47	**9.90**
8000-48L	51	1-40W	6	52	**10.04**

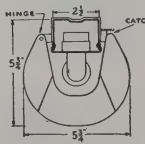
High Power Factor

8000-18H	21	1-15W	12	52	**$10.86**
8000-24H	27	1-20W	6	28	**11.50**
8000-36H	39	1-30W	6	50	**13.60**
8000-48H	51	1-40W	6	58	**13.74**
***8000-96H**	96	2-40W	4	74	**24.26**

*Couplings but not end boxes are included.

Additional End Boxes and Couplings

Cat. No.	Description	Length Inches	Price Each
8000-A	End Box	1½	**$0.54**
8000-D	Coupling	.....	**.36**



No. 18000H-L

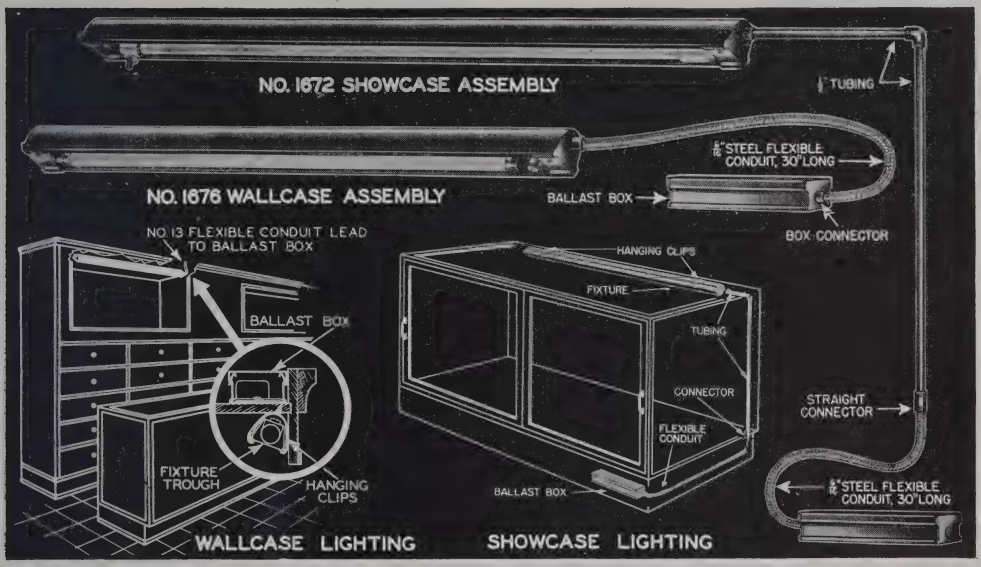
Hinged louver shields are available for 4-foot units or runs in multiples of 4 feet. Shields are 48 inches long, complete with brackets for simple attachment to Adda-Strip* units.

Price, No. **18000H-L** ..... each **$11.68**

*® Garden City Plating & Mfg. Co.

DAY-BRITE SHOWCASE AND WALLCASE ASSEMBLIES

FOR FLUORESCENT AND SLIMLINE LAMPS



For All Types of Display Lighting Applications

These assemblies are available for 18-inch and 36-inch, T-8 fluorescent lamps and 42-inch and 64-inch, T-6 Slimline lamps. They are extremely compact and have many applications for display lighting.

The showcase assemblies are furnished complete with hanging clips, tubing in sufficient lengths to run across top of case and in 36-inch lengths to run down front corner to the floor of the case. A 36-inch length of flex is supplied with box connector for connection to conceal type ballast box.

The wallcase assemblies are furnished complete with hanging clips and a 36-inch length of flex with box connector for connection to the concealed type ballast box.

Wiring—All assemblies are furnished with wire connections made to sockets and include sufficient lead to reach the ballasts. They include sockets, NO-BLINK type starters, ballast boxes, and HPF ballasts for 118-volt, 60-cycle, A.C. operation. The Slimline ballasts supplied are for lamp operation of 200 milliamperes.

Finish—Showcase fixture troughs and tubing are finished in Satin Nickel Plate. They can also be supplied in any standard lacquer finish at the same price. Wallcase fixture troughs are finished in baked SUPER-WHITE enamel.

Day-Brite also manufactures a full line of tailor-made equipment for showcase lighting applications. Write for complete data.

Case Size (Feet)	For Lamps No.	For Lamps Inches	For Lamps Type	Cat. No.	List Each	Min. Fixture Lgth., Ins.	Approx. Shpg. Wt. Lbs.
Showcase Assemblies							
3	1	18	Fluorescent	**1670**	**$28.60**	25	9
4 to 5	1	36	Fluorescent	**1671**	**35.20**	43	14
4 to 6	1	42	Slimline	**1672**	**46.20**	46¼	21
6 to 7	1	64	Slimline	**1673**	**49.50**	68¼	24
7 to 8	2	36	Fluorescent	**1674**	**50.82**	81¾	25
Wallcase Assemblies							
	1	18	Fluorescent	**1675**	**22.34**	23¾	8
	1	36	Fluorescent	**1676**	**28.28**	41¾	13
	1	42	Slimline	**1677**	**39.06**	45	20
	1	64	Slimline	**1678**	**41.48**	67	23
	2	36	Fluorescent	**1679**	**41.58**	80½	24

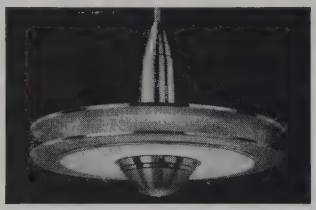
CURTIS INDIRECT INCANDESCENTS

"SNO-FLAKE"
No. 5200

The "Sno-Flake" is supplied complete with necessary canopy, socket, and an aluminum stem for 30 inch suspension. Hickey and lead wires are also supplied. A self aligning fitting in the canopy permits luminaire to hang plumb even though outlet box or stud is out of line. Lamp not supplied.

Cat. No.	Socket	Lamp Watts	Dimn. of Louver Diam. In.	Depth In.	Ceiling to Louver In.	Price
5200	Mogul	500-300*	18¼	2 3/16	30	**$16.60**

*For use with 300W lamp order Cat. No. 6065 Adapter Ring (Price **$0.37**).



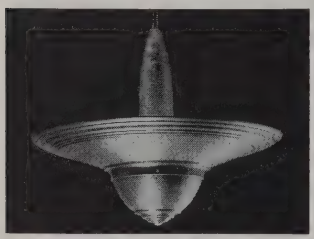
"LARRA"
No. 5060

Material and Finish: Alzak Aluminum and glass. Reflected light provides a luminous effect on exterior of bowl.

Installation: Has simplified socket and bowl assembly for ease of installation.

A self-aligning fitting in the canopy permits the luminaire to hang plumb even though the outlet box or stud may be out of line. Relamping and cleaning easily accomplished. Lamp not supplied.

Cat. No.	Ceiling to Top of Bowl In.	Socket	Lamp Watts	Bowl Diam. In.	Bowl Depth In.	Price Each
5060	36	Mogul	500 or 300	20	5½	**$48.90**



"WINNER"
No. 5090

Efficiency marks this tailored design as outstanding. The bowl in the "Winner" Luminaire contains a silver mirror "X-Ray" reflector which provides even distribution and high light-output, constituting the best quality indirect illumination.

Material: Aluminum. Finish: Exterior Silver Gray. Interior Flat white. Reflecting surface: Silver Mirror "X-Ray" Reflector. Lamp not supplied.

Cat. No.	Ceiling to Top of Bowl In.	Socket	Lamp Watts	Bowl Diam. In.	Bowl Depth In.	Price Each
5090	36	Mogul	500 or 300	19½	7	**$22.35**

CURTIS INDIRECT INCANDESCENTS

"DISCUS"
1021—1024

A simple and graceful indirect lighting luminaire for use with one silvered bowl lamp. If 300-watt lamp is to be used, order one Cat. No. 6055 (**$0.65**) adapter ring. The unusual shallowness of the bowl assures high light output. A single conical lamp neck shield forms part of the fixture, and completely conceals the lamp neck from view under normal installation conditions. A second shield Cat. No. 6064 (Price **$1.00**) can be supplied for low ceiling installations at an additional charge.

Material: Alzak Aluminum reflecting surface. Exterior finish, satin aluminum. Lamp not supplied.

Cat. No.	Ceiling to Top of Bowl In.	Socket	Lamp Watts	Bowl Diam. In.	Bowl Depth In.	Price Each
1021	36	Mogul	500 or 300	20	2	**$18.15**
1024	48	Mogul	1000 or 750	26	3	**25.50**

"EDGE-RAY"
1250—1270

The "Edge-Ray is made softly luminous by a unique feature which reflects a portion of the light from the lamp to the surface of the bowl.

Material and Finish: Aluminum with polished highlights. Installation: simplified socket and bowl assembly for ease of installation.

A self-aligning fitting in the canopy permits the luminaire to hang plumb even though the outlet box or stud may be out of line. Relamping and cleaning is easily accomplished. Lamp not supplied.

Cat. No.	Ceiling to Top of Bowl In.	Socket	Lamp Watts	Bowl Diam. In.	Bowl Depth In.	Price Each
1250	36	Mogul	500 or 300	21½	8	**$29.00**
1270	48	Mogul	750 or 1000	27½	11	**45.10**

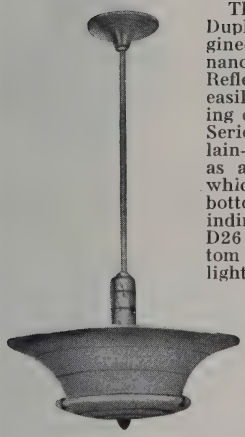
MILLER COMMERCIAL LIGHTING FIXTURES
FOR STORES, OFFICES, PUBLIC BUILDINGS

C3-350

CS3-350

Ideal where budget limitations require low cost lighting equipment. These fixtures are available for 300 and 500 watt silvered bowl lamps in the three ring design for either suspension or ceiling mounting. To provide an extra 85 degree shielding angle, the lamp neck is baffled. The canopies, stems and husks are in baked French grey enamel while the ring assembly is baked satin white finish.

Cat. No.	Mounting	Overall Dimensions Diameter	Height	User Net Price
C3-350	Ceiling	17⅞	10⅞	$10.35
CS3-350	Suspension	17⅞	29⅜	10.85

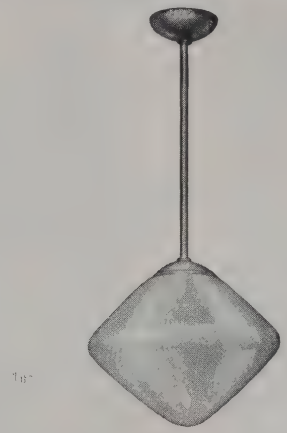


The D24 and D26 Series Duplexalite Fixtures are engineered to make maintenance easy and economical. Reflector on both types is easily removable for cleaning or re-lamping. The D24 Series has a white porcelain-enameled bottom baffle as a part of the reflector, which reduces brightness of bottom disc and increases indirect light output. The D26 Series has no inner bottom baffle. A soft, mellow light is transmitted downward through the glass bottom disc which reduces surface brightness.

Fixtures finished in dull and polished aluminum with ivory reflector. Wired complete.

Lamps not included.

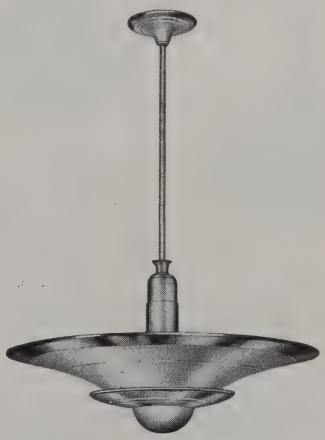
Cat. No.	Dimensions, Inches — Diameter Reflector	Length Overall	Approx. Wt. Lbs.	User Net Price
D224	16	36	14	$14.70
D226	16	36	14	19.05
D524	20	39	17	13.80
D526	20	39	17	18.05



The Diamond — totally enclosed direct lighting fixture with globe of highly efficient Genco diffusing glass. Provides excellent diffusion with low brightness. Special fitter furnishes inside dust tight support for globe. Finished in Nuvon Chrome (Wired complete — lamps not included).

Cat. No.	Lamp Watts	Dimens., In. Dia. Glass	Lgth. Overall	App. Wt. Lb.	User Net Price
Medium Type Socket					
M1128x14 Genco	200	14	37½	10	$9.45
M1128x16 Genco	200	16	39¼	12	11.40
Mogul Type Socket					
MO1128x16 Genco	300–500	16	39¼	15	14.75
MO1128x18 Genco	300–500	18	41¼	17	15.85

Also available as a semi-indirect fixture — the Jewel.

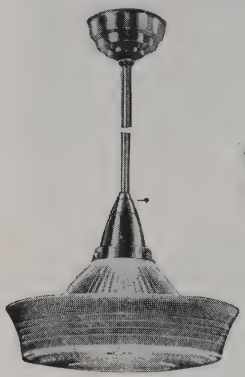


The Winton — all metal indirect lighting fixture. A small amount of light filters through the metal bottom louvre to softly illuminate the fixture which is finished in dull aluminum with polished edge; The Silvered Bowl lamp in 300 or 500 watt size becomes an integral part of the fixture design. Wired complete—lamp not included.

Cat. No.	Type Socket	Diameter Inches	Length Overall	Approx. Wt. Lbs.	User Net Price
MO1279	Mogul	21	37¼	13	$21.10

HOLOPHANE COMMERCIAL SEMI-DIRECT LIGHTING UNITS

CORRECTALITE* CLOSE-CEILING OR SUSPENSION MOUNTING



No. S-5540

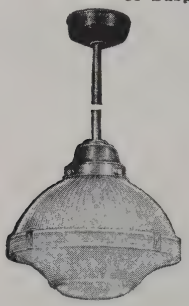
No. C-5540

Combines the effectiveness of direct lighting with the eye comfort of an indirect system. Prismatic control directs light down on the work; there is sufficient upward light for pleasing ceiling illumination. Enclosed construction improves maintenance; easy cleaning restores the high original efficiency. Intensive distribution.

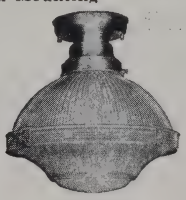
Cat. No.	Lamp Wattage	Dimens., Inches Diam.	Depth	Shpg. Wt. Lbs.
C-5540	200–300†	15⅝	12⅞	20
S-5540	200–300†	15⅝	33½	20½

†Medium base—6 inch light center lamp.

SEMI-DIRECT LUMINAIRES REFLECTOR—REFRACTORS* Close-Ceiling or Suspension Mounting



No. C-2120



No. S-2120

These semi-direct luminaires give effective illumination down on working areas with adequate ceiling light to avoid harsh contrasts. There is a minimum of light emitted at the glare angle.

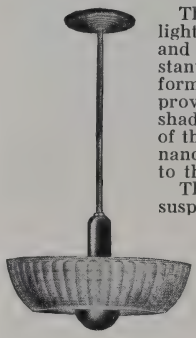
Cat. No.	Lamp Wattage	Distribution	Dimens., In. Diam.	Depth	Shpg. Wt. Each Lbs.
	CEILING TYPE UNITS — TYPE C (Relamped by removing bottom cup)				
C-2110	75–100	Extensive	7⅝	8¼	5¾
C-2120	100*–150	Extensive	9¾	10¾	8½
C-2130	200	Extensive	12	12⅝	13½
C-2133	200	Intensive	12	12⅝	13½
C-2140–6″	300–500	Extensive	14	14	17½
C-2143–6″	300–500	Intensive	14	14	17½
	SUSPENSION TYPE UNITS — TYPE S (Relamped by removing bottom cup)				
S-2110	75–100	Extensive	7⅝	28¾	6
S-2120	100*–150	Extensive	9¾	30⅜	8¾
S-2130	200	Extensive	12	32	13½
S-2133	200	Intensive	12	32	13½
S-2140–6″	300–500	Extensive	14	33½	18
S-2143–6″	300–500	Intensive	14	33½	18
S-2172	100*–150	Asymmetric	9⅞	30½	8¾
	RELAMPED BY REMOVING GLOBE (One piece unit)				
C-2170	100*–150	Extensive	9⅞	11	8½
S-2170	100*–150	Extensive	9⅞	30½	8¾

Wire is furnished with these units. Units are not wired

*Use 1⅜ socket extension for 100w. lamp.
★Reg. U.S. Pat. Off.

HOLOPHANE COMMERCIAL INDIRECT LIGHTING UNITS

LUMINOUS INDIRECT FOR SILVERED BOWL LAMP



No. S-5640

These units are ideal for the lighting of offices, classrooms and other locations where constant fine-detail work is performed. Maximum eye comfort is provided by the absence of shadows and the low brightness of the luminaires. Ceiling maintenance will keep the efficiency up to the initial values.

The fixture has a typical stem suspension, with ball and socket aligner. The husk supports a crystal-glass fluted prismatic bowl by means of three rods terminating in the flattened portion. Interchangeable glass rings, fitting in the bottom opening, take care of the variation in lamp size and constitute the only difference between the two units.

Maximum spacing, 14 feet; diameter, 17½ inches; depth, 29⅝ inches; canopy diameter, 7 inches.

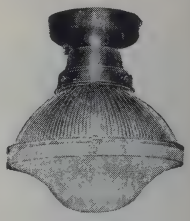
Cat. No.	Lamp Wattage	Diam. In.	Dpth. In.	Distribution	Shpg. Wt. Lbs.
S-5630	300* I.F.	17½	29⅝	Inverted	20
S-5640	500* I.F.			Widespread	20

*Mogul base, inside frost silver bowl lamp. Wire is furnished with these units. Does not include lamp.

SPECIAL PURPOSE LIGHTING

CORRIDOR LIGHTING

No. C-2172 is specially designed for the lighting of corridors or similar long narrow traffic spaces. It delivers an asymmetrical light pattern; the light is widely spread along the length of the area and restricted across the width. Units may be spaced as far apart as 2½ times the mounting height above floor.



No. C-2172

Cat. No.	Lamp Wattage	Dimens., Inches Diam.	Depth	Shpg. Wt. Lbs.
C-2172	100*–150	9⅞	11	8½

*Use 1⅜-inch socket extension for 100-watt lamp.

BOOKSTACK LIGHTING

No. 02076

The major portion of the light travels to the vertical surface of the bookstacks with only a small component in the aisle space. The result is even lighting from top to bottom of the stacks and along the stack. No. 02076 has clamping fitter to fit grooved socket. No. 02076-BC, outlet box cover termination.

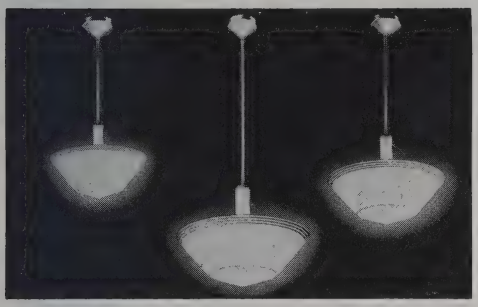
Cat. No.	Lamp Wattage	Dimens., Inches Diam.	Depth	Shpg. Wt. Lbs.
02076†	50–60	8¾	6⅝	5¼
02076-BC	60‡–100	8¾	10⅛	6¼
02076-BC	150	8¾	10⅛	6¼

†Does not include socket. Wire is not furnished with these units.
‡Specify if 60 w. lamps are to be used.

WAKEFIELD LUMINOUS-INDIRECT LUMINAIRES

THE COMMODORE SERIES

15, 19 and 23-Inch Reflectors to Accommodate from 200 to 750 Watts



No. 265 No. 763 No. 369

The Commodore offers a wide range of lamp sizes, with all hangers and reflectors similar in pattern, varying in size to accommodate the design lamp size and in wall thickness to provide uniform brightness with the various lamps wattages. Because of this wall thickness correction, an installation of various size units can have uniform brightness and appearance.

Reflectors are molded of translucent white reflector material that is light in weight, non-electrostatic, non-shatterable, and will not support combustion. Metal parts are satin-finish aluminum.

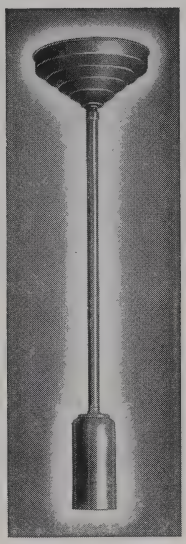
The Commodore Price Table

Cat. No.	Wattage	Over-all Length	Socket	Dia. Reflector In.	List Price
2653	200-300	14″	Med.	15	**$ 6.59**
265	200-300	28″	Med.	15	**7.26**
3693	300-500	16½″	Mog.	19	**9.32**
369	300-500	34″	Mog.	19	**10.06**
763	750	44″	Mog.	23	**19.52**

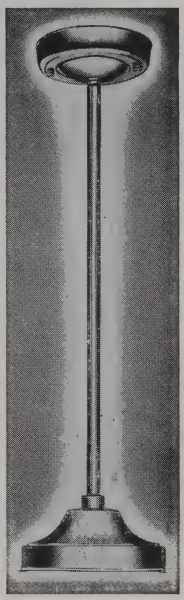
Performance Table

Cat. No.	Surface Brightness per Sq. In. Min.	Surface Brightness per Sq. In. Max.	Distribution of Lamp Output Downward	Distribution of Lamp Output Upward	Overall Efficiency	Classification
265	0.4	1.8	12.0%	71.0%	83.0%	Semi-Indirect
369	0.3	0.8	6.5%	75.0%	81.5%	Indirect
763	0.2	1.0	5.5%	73.5%	79.0%	Indirect

WAKEFIELD HANGERS SCREWLESS TYPE



No. 2274A



No. 1064AT

OPEN BOWL HANGERS

No. 2274A Open Bowl Hangers are made from aluminum, and are given a satin aluminum finish. Excellent mechanical strength as well as simplicity and refinement. Supplied with set of three bead chains for supporting bowl.

Suspension Type

Cat. No.	Overall Length	Socket	Price Each
2271A	20½″	Medium	**$3.25**
2294B	24″	Mogul	**4.04**

Close-Up Unit

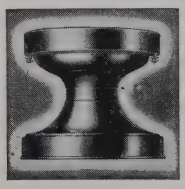
2271A	6¾″	Medium	**2.64**
2291B	7¼″	Mogul	**3.19**

SCREWLESS 1000 LINE

Semi-Rigid Type

Wakefield "1000 line" globe hangers are drawn from heavy-gauge steel, and electro-finished in satin zinc. Canopies are 5 inches on semi-rigid types, 6 inches on ceiling units.

Cat. No.	Size Fitter	Over-all Length	Socket	Price Each
1044AT	4″	24″	Medium	**$2.92**
1064AT	6″	24″	Medium	**3.07**
1064BT	6″	24″	Mogul	**3.45**



1000 LINE — CEILING UNIT

Cat. No.	Size Fitter	Length In	Price Each
	Medium Socket		
1041AT	4″	5½	**$1.93**
1061AT	6″	5⅞	**2.07**
	Mogul Socket		
1061BT	6″	5⅞	**2.44**

MILLER STANDARD HANGERS

Listed by Underwriters' Laboratories

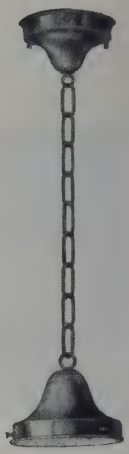
Miller standard hangers are designed to provide the greatest possible mechanical strength. They are constructed of 22 gauge, .031 steel and are finished in baked painted statuary bronze. They come in a wide range of fitter sizes:

Four-inch holders are equipped with three heavy-gauge threaded bushings and beveled and upset heavy-gauge screws. Six and eight inch holders with four beveled and upset screws.

Hangers are supplied standard with stems of ¼" aluminum pipe, (.085") thick, threaded both ends. Stems are finished in baked painted statuary bronze.

Chain is of suitable gauge steel insuring mechanical strength and is finished to match finish of hanger.

Swivel Stem Pendant



Chain Pendant

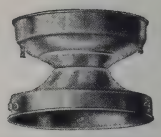
WIRE AND SOCKETS

No. 16AF wire is supplied with hangers for lamps of 500 watt size or smaller.

No. 14AF wire is supplied with hangers for lamps of 750 watt size or larger.

Porcelain sockets of the highest quality are used in both medium and mogul type hangers.

Cross bars — Ceiling units are supplied standard with offset reversible galvanized crossbars, two screws with large barrel nuts are supplied.



Ceiling Type

Cat. No.	Finish	List Price Each	Type Socket	Dimensions in Inches: Diameter Canopy	Length Tube Stem	Length to Bottom of Holder	Fitter Diameter	Standard Package Quantity	Approx. Wt. Lbs.
			Chain Pendant						
M1550	Baked Syn. Stat. Brz. Paint	**$4.40**	Medium	5¼	....	24	4	12	30
M1551	Baked Syn. Stat. Brz. Paint	**4.95**	Medium	5¼	....	24	6	12	35
MO1551	Baked Syn. Stat. Brz. Paint	**5.70**	Mogul	5¼	....	24	6	12	35
			Swivel Stem Pendant						
M1554	Baked Syn. Stat. Brz. Paint	**6.80**	Medium	5¼	18	24	4	12	30
M1555	Baked Syn. Stat. Brz. Paint	**7.10**	Medium	5¼	18	24	6	12	35
MO1555	Baked Syn. Stat. Brz. Paint	**7.80**	Mogul	5¼	18	24	6	12	35
			Ceiling Type						
M1503	Baked Syn. Stat. Brz. Paint	**3.20**	Medium	6⅛	....	4	4	12	25
M1504	Baked Syn. Stat. Brz. Paint	**3.60**	Medium	6⅛	....	4½	6	12	30
MO1504	Baked Syn. Stat. Brz. Paint	**4.40**	Mogul	6⅛	....	4½	6	12	35

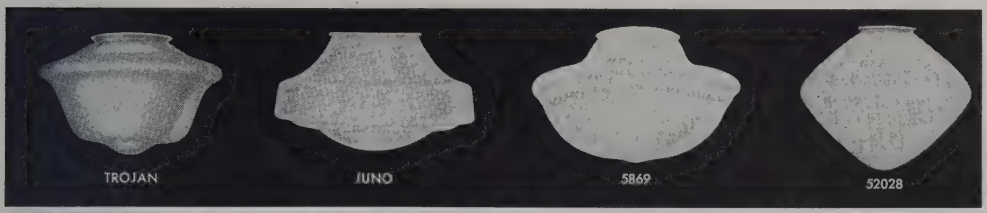
Extra length chain and wire, Statuary Bronze Paint, **$0.45** list per foot.

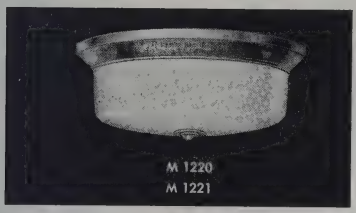
Chain only, Statuary Bronze Paint, **$30.00** list per hundred feet. Extra length stem and wire, Statuary Bronze Paint, **$0.90** list per foot. Standard canopy switch, **$2.25** list each; wired on hanger.

Hangers are supplied standard wired. They will be supplied on special order unwired with wire and socket included but unattached.

Note: The above hangers cannot be supplied in chrome finish. They can be supplied on special order finished in baked synthetic grey paint at no additional charge.

MILLER LIGHTING GLASSWARE





The Trojan distributes diffused light both above and below the mounting plane. The light density Genco glass produces pleasing, delightful illumination in all directions without sharp shadows, or annoying glare.

The Juno is a desirable variation from the typical enclosing globe and was designed for efficient distribution and to avoid excessive brightness. The light density of the Genco glass is of high diffusing quality and low light absorption.

No. 5869 brings a new beauty of appearance. It gives a touch of distinction and radiates an atmosphere of attractiveness that makes it ideal for most commercial locations. The Genco glass is of light density with high diffusing quality and low light absorption.

No. 52028 distributes diffused light from above and below the mounting plane. The light density highly efficient Genco glass produces pleasing illumination.

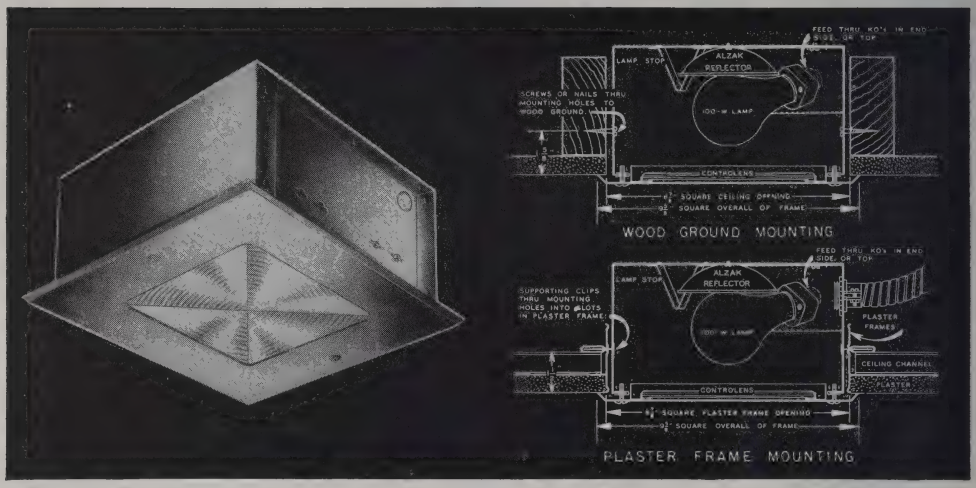
For locations having limited headroom — standard with two porcelain sockets, bottom knob support, white inner reflecting surface. Easily wired and installed. Fixture standard not wired. M1220 and M1221 standard with Box bowl. Finished in baked synthetic painted statuary bronze. Can be supplied on special order finished in baked synthetic grey paint at no additional charge. Complete with glass.

Catalog Number	List Price Each	Dimensions in Inches: Diam.	Depth	Fitter	Lamp Wattage	Standard Pkg.: Quantity	Approx. Wt. Lbs.	Net Charge for Std. ⅞" Bottom Hole Each
Ivanhoe Trojan								
5264 x 9 Genco	**$2.30**	9	5⅞	4	60–100	12	28	**$0.08**
5264 x 10 Genco	**3.35**	10	6½	4	100–150	4	12	**.08**
5264 x 12 x 4 Genco	**5.20**	12	7⅞	4	100–150	4	17	**.13**
5264 x 12 x 6 Genco	**5.20**	12	7⅞	6	100–150	4	17	**.13**
5264 x 14 Genco	**6.80**	14	9	6	150–200	2	11	**.13**
5264 x 16 Genco	**9.75**	16	10¼	6	200–300–500	2	13	**.17**
5264 x 18 x 6 Genco	**15.25**	18	11⅛	6	300–500	1	10	**.25**
5264 x 18 x 8 Genco	**15.25**	18	11⅛	8	300–500–750	1	10	**.25**
Ivanhoe Juno								
5243 x 9 Genco	**2.30**	9	6 11/16	4	60–100	12	28	**.08**
5243 x 12 x 4 Genco	**5.20**	12	7½	4	100–150	4	17	**.13**
5243 x 12 x 6 Genco	**5.20**	12	7½	6	100–150	4	17	**.13**
5243 x 14 Genco	**6.80**	14	8⅝	6	150–200	2	11	**.13**
5243 x 16 Genco	**9.75**	16	9 5/16	6	200–300–500	2	13	**.17**
5243 x 18 Genco	**15.25**	18	10 13/16	8	300–500	1	10	**.25**
Ivanhoe 5869								
5869 x 10 Genco	**3.35**	10	7	4	100–150	4	12	**.08**
5869 x 12 x 4 Genco	**5.20**	12	7 13/16	4	100–150	4	17	**.13**
5869 x 14 Genco	**6.80**	14	8¾	6	200	2	11	**.13**
5869 x 16 Genco	**9.75**	16	10 5/16	6	200–300–500	2	13	**.17**
5869 x 18 x 6 Genco	**15.25**	18	11½	6	300–500	1	10	**.25**
5869 x 18 x 8 Genco	**15.25**	18	11½	8	200–500–750	1	10	**.25**
Ivanhoe 52028								
52028 x 14 Genco	**7.50**	14	10½	6	200	1	5	....
52028 x 16 Genco	**10.85**	16	12½	6	200–300–500	1	6	....

Cat. No.	Finish	List Price Each	Description	Complete with Glassware	Dimens. In.: Diam.	Dpth.	Fitter	Recomm. Lamp Watts	Std. Pkg. Qty.	Approx. Wt. Lbs.
Close Ceiling Fixtures										
M1220	**Stat. Brz. Paint**	**$14.05**	Ceiling Band-Box Bowl	539x10 Genco BH	11½	4½	.....	(2) 25-40	4	30
M1221	**Stat. Brz. Paint**	**16.35**	Ceiling Band-Box Bowl	539x12 Genco BH	13¾	5	.....	(2) 50-60	4	36
539 x 10 Genco BH		**4.80**	Replacem't Glass—M1220		10	3	.....	(2) 25-40	6	20
539 x 12 Genco BH		**6.80**	Replacem't Glass—M1221		12	3½	.....	(2) 50-60	6	27

DAY-BRITE RECESSED FIXTURES

WITH HOLOPHANE CONTROLENS



These recessed fixtures are listed as one-light units for 6½-inch, 8½-inch and 12-inch Holophane Controlens. Other sizes can be furnished for special applications.

Units have drop-hinge frames (Note — No. S-5140 one-light unit has removable frame).

Fixtures are available with vertical lamp mounting for concentrating, medium or wide-spread distribution and horizontal lamp mounting for wide-spread distribution only. Unless otherwise specified, fixtures will be supplied for wide spread distribution only. Fixtures are furnished complete with porcelain sockets, Alzak reflectors, and Holophane Controlens. Shipped UNWIRED.

Finish — Boxes are finished in baked enamel, gray outside and white inside. Frames are finished in baked aluminum gray enamel.

Mounting — Fixtures are provided with mounting holes and knockouts conveniently located for installation and electrical connection. Plaster frames are available, see listing in schedule.

Note — To relamp and clean, units are easily opened by removing two thumbscrews.

Catalog No.	Price Each	Box Size, Inches			Lamp Position		Lamp Size	Controlens Size, In.	Approx. Shpg. Wt.	Plaster Frames	
		Depth	Width	Length						Cat. No.	Price
One-Light Recessed Fixtures — Hinged Frames											
RS851RH	**$29.26**	7 7/16	10 9/16	10 9/16	Horizontal		150-w	8½	24 lbs.	**1311**	**$4.40**
RS851RHV	**34.66**	10¾	10 9/16	10 9/16	Vertical		150-w	8½	32 lbs.	**1311**	**4.40**
RS121RH	**37.40**	9	14 3/8	14 3/8	Horizontal		200-w	12	33 lbs.	**1312**	**4.96**
RS121RHV	**42.90**	13 1/8	14 3/8	14 3/8	Vertical		200-w	12	43 lbs.	**1312**	**4.96**
One-Light Recessed Fixtures — Removable Frames											
S5140	**$16.94**	4 5/8	8 5/8	8 5/8	Horizontal		100-w	6½	12 lbs.	**1303**	**$4.14**

DAY-BRITE ACCENT UNITS

Recessed Fixtures for Individual Mounting and for use with Recessed Troffer Fixtures

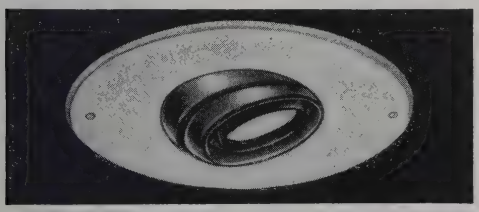
For snap-in type installations, the same unit is used for individual mounting, intermediate mounting and end-of-run mounting. They are self-contained, and need no additional accessories.

Flange type units are listed for three applications. Individual mounting, intermediate mounting and end-of-run mounting. All flange type units include suspension straps and the necessary couplings.

Adjustable units accommodate 150-watt PAR-38 or 200-watt PAR-46 Side-Prong lamp. Face plates and trim finished in Hot-Bonded Super-White enamel. On adjustable units, lamp housing finished in luster aluminum with interior and louver in matt black. Include two-prong connector and 18-inch asbestos covered leads.

Cat. No.	Description	Shpg. Wt. Lbs.	List Each
	FLANGE TYPE FIXED UNITS		
80127	Individual Unit with Suspension Strap	14	**$31.02**
80127-CC	Intermediate Section with Suspension Strap and Couplings	14	**31.84**
80127-CE	End Section with Suspension Strap and Coupling	14	**31.44**
	SNAP-IN TYPE FIXED UNITS		
80125	Individual, Intermediate, or End Unit	13	**28.60**
	FLANGE TYPE ADJUSTABLE UNITS		
80137	Individual Unit with Suspension Strap	13	**26.62**
80137-CC	Intermediate Section with Suspension Strap and Couplings	13	**27.44**
80137-CE	End Section with Suspension Strap and Coupling	13	**27.04**
	SNAP-IN TYPE ADJUSTABLE UNITS		
80135	Individual, Intermediate or End Unit	12	**24.20**

ROUND RECESSED ADJUSTABLE UNIT



Accommodates 150-watt PAR-38 or 200-watt PAR-46 Side-Prong lamp. Face plate finished in Hot-Bonded Super-White enamel, and equipped with drop hinge arrangement for servicing. Lamp housing finished in luster aluminum with interior and louver in matt black. Includes two prong connector with 18-inch asbestos covered leads.

Cat. No.	Description	Shpg. Wt. Lbs.	List Each
80142	Box 11⅞" by 7⅞" deep	9	**$27.06**

DAY-BRITE ACCENT UNITS

Surface Mounted Fixtures for Individual Mounting and for use with "VIZ-AID" and "LENOX" Fixtures

Surface mounted units designed for individual mounting or for use in connection with Viz-Aid and Lenox fixtures as indicated below.

Boxes and trim finished in Hot-Bonded Super-White enamel with lamp housing on adjustable units in luster aluminum with interior of matt black. Adjustable units accommodate 150-watt PAR-38 or 200-watt PAR-46 Side-Prong lamps and include a two-prong connector with 18" asbestos covered leads.

Fixed units include porcelain socket and 11 or 12-inch square Holophane Controlens with Alzak reflector. Unwired.

Cat. No.	Box Size, Inches Lgth.	Wdth.	Dpth.	Lens Size In.	For Lamp	Shpg. Wt. Lbs.	List Each
	For use with VIZ-AID 2-40 and LENOX-2 or Individually						
80112*	13¼	13¼	6	....	PAR	11	**$22.00**
80113†	13¼	13¼	6	11	150W	15	**28.60**
	For use with VIZ-AID 2-85 or Individually						
80114*	16½	16½	8¼	....	PAR	16	**26.40**
80115†	16½	16½	8¼	12	200W	21	**35.20**
	For use with LENOX-4 or Individually						
80116*	16½	16½	6	....	PAR	14	**24.76**
80117†	16½	16½	6	12	200W	19	**33.56**

*Adjustable Type.

†Fixed Type.

DERBY DOWNLIGHTS

Derby Downlights are available in the louvered type for use with standard type "A" lamps or PAR-38 or PAR-40 lamps*. Also listed with round 6¾-inch Holophane Controlens for use with 100-watt Type "A" lamp. Frames finished in Hot-Bonded Super-White enamel and louvers in matt black. Fixtures recessed 7 inches deep and require 7-inch ceiling opening. Include outlet box and four foot of flex with connector with wire.

Cat. No.	Description	Shpg. Wt. Lbs.	List Each
80140	For PAR-38 or R-40 lamp*	6	**$ 9.14**
80141	With Holophane Controlens	9	**14.08**

*R-40 can be used without louver.

CURTIS RECESSED LIGHTING EQUIPMENT

ORDERING INFORMATION

To facilitate the ordering of Curtis Recessed Equipment "complete unit" numbers have been used throughout this listing. Thus, one number designates a complete assembly. Plaster rings where required must be ordered separately as they are not included in complete unit numbers.

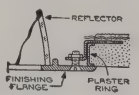
ECONOMY REFLECTOR UNITS

Plain Recessed Unit

Where no lens is required, an inexpensive type of recessed lighting is provided by "X-Ray" Reflectors which rest directly on a ceiling flange.

Complete Economy Recessed unit catalog numbers include ceiling flange, "X-Ray" Reflector, socket and shell with side outlet. For plaster ceilings, a light weight "plaster-ring" (not included in complete unit numbers) is generally used as a support for mounting ceiling flange. These units do not carry Underwriters' Recessing Labels but are suitable for fireproof or semi-fireproof construction where local inspection will approve.

Detail of installation in plaster ceiling.



Plain Reflector Units

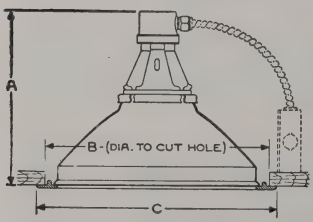
Complete Unit No.	Wattage and Distribution	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Complete Unit	Plaster Ring If Required Cat. No.	Price Each
2120H‡	500 or 300 (distributing)	4	34	$19.00	14312	$1.30
2122	500 or 300 (distributing)	4	36	13.40	14312	1.30
2124	500 or 300 (distributing)	6	50	13.75	14111	1.85
2125	500 or 300 (concentrating)	6	50	13.75	14111	1.85
2126	200 or 300 (distributing†)	8	32	9.85	14028	1.40
2127	200 or 300 (distributing)	12	85	10.35	14035	1.40
2128	200 or 300 (concentrating)	10	70	10.35	14035	1.40
2130H‡	300 or 200 (distributing†)	8	44	14.75	14028	1.40
2132	100 (distributing)	24	70	7.40	.....	.....

*These items are bulk packed. Number shown as standard package is standard quantity for pricing purposes only.

‡These units include a concentric snap-in louver, finished light matte gray.

†Use medium base lamps.

Dimensions for Installing Plain Recessed Reflector Units



Unit No.	Dimens. In. A*	B	C
2120H	13⅜	12½	14½
2122	13⅜	12½	14½
2124	11⅛	13⅝	15⅝
2125	11⅛	13⅝	15⅝
2126	10⅞	10	12
2127	9⅜	11⅛	13¼
2128	11	11¼	13¼
2130H	10⅞	10	12
2132	7⅝	6⅝	7⅝

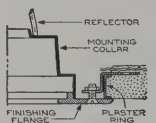
*Add ½" to allow minimum clearance for removal of reflector from flange.

CURTIS RECESSED LIGHTING EQUIPMENT

COMPLETE HINGED RIM RECESSED UNITS NOT HOUSED

Hinged rim units include "X-Ray" Reflector, holder, socket and shell with one-half inch side outlet, mounting collar, and hinged rim with cover glass, louver, or combinations of glass and louver, as specified. Finishing rims are of satin gray enameled steel.

These units do not carry Underwriters' Recessing labels but are suitable for fireproof or semi-fireproof construction where local inspection will approve.



Detail showing Hinged unit installed in plaster ceiling.

INSTALLATION: Hinged rim recessing units may be installed in plaster, wood, concrete, or metal ceilings. For plaster ceilings, a "plaster ring" is generally used as a support for mounting the ceiling rim.

On wood, metal or concrete ceilings no plaster ring is required. Screws, bolts, or expansion bolts may be used to attach rim directly to ceiling.

NOTE: Plaster rings are not included in complete unit numbers and, where necessary, must be ordered separately.

For 500- or 300-Watt Mogul Base Lamp 14-inch Rim Size

Complete Unit Cat. No.	Type of Reflector	Cover Glass	Louver	Price Each
2101-A	Distrib.	Crackled	None	$25.75
2101-F	Distrib.	Crackled	Conc.	31.85
2102-H	Distrib.	None	Conc.	27.40
2103-A	Conc.	Crackled	None	27.10
2103-F	Conc.	Crackled	Conc.	33.10
2103-H	Conc.	None	Conc.	25.35
14038	Plaster Ring (if required).....			1.60

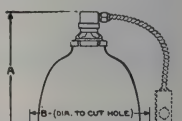
For 200- or 300-Watt Medium Base Lamp 10-Inch Rim Size

2104-B	Distrib.	Sanded	None	$16.75
2104-F	Distrib.	Crackled	Conc.	22.10
2105-H	Distrib.	None	Conc.	19.40
2106-A	Conc.	Crackled	None	16.85
2106-F	Conc.	Crackled	Conc.	21.90
2106-H	Conc.	None	Conc.	19.40
14034	Plaster Ring (if required).....			1.40

For 100-Watt Lamp—7-inch Rim Size

2109-B	Distrib.	Sanded	None	$11.75
2109-F	Distrib.	Crackled	Conc.	16.75
2109-H	Distrib.	None	Conc.	15.40
14011	Plaster Ring (if required).....			1.15

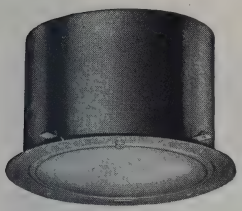
Units	Dimens., Inches A	B	C
2101-A to H	15⅛" *	14½"	17⅜"
2102-A to H	12⅞" †	14½"	17⅜"
2103-A to H	12⅞" †	14½"	17⅜"
2104-B to H	12½" *	10⅝"	12⅝"
2105-A to H	11¼" *	10⅝"	12⅝"
2106-A to H	12⅞" *	10⅝"	12⅝"
2109-B to H	8¾" *	7⅝"	9½"



*Add ½ inch to allow minimum clearance for removal of reflector.

†Add 1½ inches to allow minimum clearance for removal of reflector.

CURTIS INCANDESCENT UNITS
Recessed—Metal Housed



Round Deep Unit

Round

Large Deep Units: One—300 Watt Lamp.

Materials and Finishes: Heavy gauge steel finished satin gray inside and black enamel outside. "X-Ray" reflector and holder inside is fitted with medium base socket. Finishing rims are steel finished in white "Fluracite" enamel.

Dimensions: Depth 15¼ inches. Diam. 14½ inches. Hinged rim O.D. 17⅜ inches. Lens or Louver 14 inches dia. (14038 plaster ring, **$1.60**).

Cat. No.	Type	Fittings Included	Price of Unit
2307	Concent.	Crackled glass lens	**$32.10**
2309	Distrib.	Crackled glass lens	**31.60**
2317	Concent.	Concentric Louver	**31.35**
2318	Distrib.	Concentric Louver	**31.35**
2327	Concent.	Lens and Louver	**37.00**
2329	Distrib.	Lens and Louver	**36.65**
		For 500 Watt	
2417	Concent.	Concentric Louver	**32.85**
2418	Distrib.	Concentric Louver	**32.85**

Large Shallow Units: Two—150 Watt Lamps.

Materials and Finishes: Housing, heavy gauge steel, finished satin gray inside, black enamel outside. Two medium base sockets are mounted on a steel plate within the housing. A ⅞-inch knockout is provided in the side of the housing behind the sockets. (Plaster ring Cat. No. 14038 should be ordered for use with plaster ceiling. Cat. No. 14038—**$1.60.**)

Dimensions: Depth 6 inches. Diam. 14½ inches. Hinged rim O.D. 17⅜ inches. Lens or louver 14 inches diam.

Cat. No.	Type	Fittings Included	Price of Unit
2302	Distrib.	Sanded glass lens	**$19.00**
2322	Distrib.	Lens and Louver	**25.85**

Small Deep Units: One 200 or 300 Watt Lamp.

Materials and Finishes: Heavy gauge steel finished satin gray inside and black enamel outside. "X-Ray" reflector and holder inside is fitted with medium base socket. Finishing rims are steel finished in white "Fluracite" enamel. Plaster ring Cat. No. 14037 should be ordered for use with plaster ceiling. Cat. No. 14037—**$1.40.**

Dimensions: Depth 12½ inches. Diam. 11⅜ inches. Hinged rim 12⅝ inches. Lens or Louver 10 inches dia.

Cat. No.	Type	Fittings Included	Price of Unit
2304	Concent.	Crackled glass lens	**$23.10**
2306	Distrib.	Sanded glass lens	**22.00**
2314	Concent.	Concentric Louver	**31.25**
2315	Distrib.	Concentric Louver	**25.65**
2324	Concent.	Lens and Louver	**28.10**
2326	Distrib.	Lens and Louver	**27.25**

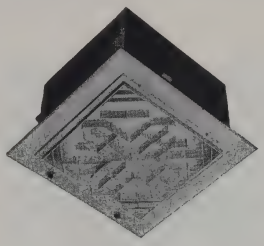
Small Shallow Units: Two—100 Watt lamps.

Materials and Finishes: Housing, heavy gauge steel, finished satin gray inside, black enamel outside. Two medium base sockets are mounted on a steel plate within the housing. A ⅞-inch knockout is provided in the side of the housing behind the sockets. Order Plaster rings Cat. No. 14037 for plaster ceilings. Cat. No. 14037—**$1.40.**

Dimensions: Depth 6 inches. Diam. 11⅜ inches. Hinged rim O.D. 12⅝ inches. Lens or Louver 10 inches diam.

Cat. No.	Type	Fittings Included	Price of Unit
2301	Distrib.	Sanded glass lens	**$12.65**
2321	Distrib.	Lens and Louver	**18.15**

CURTIS INCANDESCENT UNITS
Metal Housed Square Recessed Units



Square Shallow Unit

Square

Deep Units—One 200 or 300 Watt lamp.

Material and Finishes: Housing is heavy gauge steel, finished satin gray inside and black enamel outside. "X-ray" reflector is mounted on a standard 4-inch outlet box, with an "X-ray" holder and medium base socket. Hinged rims are of steel finished white "Fluracite" enamel. (Plaster ring Cat. No. 14042, required if used on plaster ceiling. Cat. No. 14042—**$2.25**).

Dimensions: Depth 13¼ inches. Housing is 10⅞ inches square. Lens or Louver 10 inches square. Hinged rim 13¼ inches square.

Cat. No.	Type	Fittings Included	Price of Unit
2455	Distrib.	Etched glass lens	**$29.85**
2484	Concent.	Pattern louver	**31.50**
2485	Distrib.	Pattern louver	**31.40**
2494	Concent.	Lens and Louver	**34.40**
2495	Distrib.	Lens and Louver	**34.35**

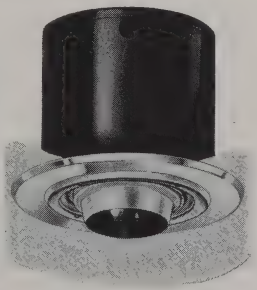
Shallow Units—Two 100 Watt lamps.

Material and Finishes: Housing is heavy gauge steel, finished satin gray inside and black enamel outside. Two medium base sockets are mounted on a steel plate within the housing. (Order plaster ring Cat. No. 14042 if used with a plaster ceiling. Cat. No. 14042—**$2.25.**)

Dimensions: Depth 6 inches. Housing is 10⅞ inches square. Lens or Louver 10 inches square. Hinged rim 13¼ inches square.

Cat. No.	Type	Fittings Included	Price of Unit
2451	Distrib.	Etched glass lens	**$21.00**
2491	Distrib.	Lens and Louver	**25.60**

CURTIS "PUNCHY" UNIT



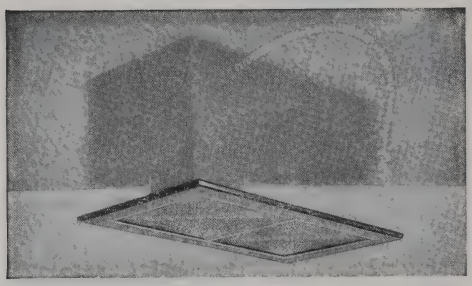
No. 2240 is a small, highly practical downlight, sturdily constructed of steel and aluminum, utilizing one side prong PAR-38, 150-watt projector flood or spot lamp. An aluminum gimbal ring permits the lamp to be adjusted to any angle 0° to 35° from the vertical and 0° to 360° horizontal. Angle of lamp is easily adjusted from the floor. As the name implies, this unit provides punch lighting for counters, showcases, mannequins, and other areas where "Attraction-Zone" lighting will give maximum sales appeal to merchandise.

Visible surfaces finished in aluminum and white Fluracite. Outside steel ring white Fluracite finish; entire gimbal ring aluminum. Housing black, steel, 6 inches required for recessing. Unit bears Underwriters' Laboratories Label. Less lamps. Plaster ring, No. 14011, must be ordered separately.

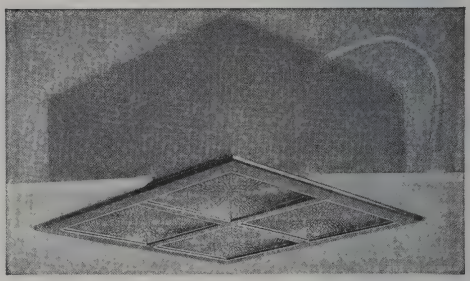
Cat. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
2240	Punchy Unit	1	....	**$13.90**
14011	Plaster Ring	10	10	**1.15**

HOLOPHANE IN-BILT FLUSH SINGLE AND MULTIPLE LIGHTING UNITS

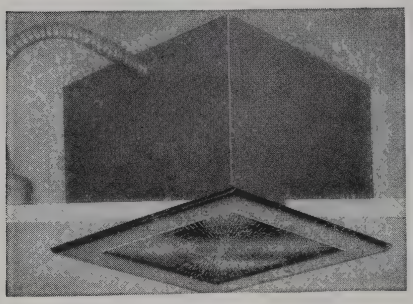
(Underwriters Approved)



No. F-1774-2; Typical for multiple units.



No. F-1774-4S; Square multiple unit.



No. F-1774; Typical for single units.

These units, being built-in, become an integral part of the building interior; they blend with most architectural designs. In most cases F-1774 type units are used in a "general" lighting layout; lighting is evenly spread over the room area when the units are uniformly spaced. (To secure this even coverage, the units should be installed at spacings of not greater than 1¼ times the mounting height above the work plane.) This type of lighting is used in stores, offices, banks, schools, churches, hospitals, studios, public buildings, etc.

Mechanical Description — These units are designed for flush recessed installation in the ceiling. They are available either as single units or in any one of a variety of multiple units (two-in-line, three-in-line, four square). Each individual optical "train" consists of a 12-inch square prismatic CONTROLENS* working with an 11½-inch square prismatic reflector. Optical elements are assembled and housed in a roughing box of No. 18 gauge steel for single units and No. 16 gauge steel for multiple units, finished white enamel inside, grey baked enamel outside.

In the single lens units, a No. 16 gauge steel face plate, finished neutral grey, is fastened to the roughing box by two concealed hinges and captive screws. The CONTROLENS is held in a guide on the face plate by two spring fingers. In multiple lens units, the CONTROLENS rest in the frames so that each may be freely slid on top of the adjoining lens in order to service the unit.

Holophane F-1748—This unit is similar in performance appearance, and mechanical design to the F-1774 unit. It differs only in respect to overall size and wattage capacity. F-1748 is for use with a 150-watt lamp maximum, and its optical train consists of a 8½-inch square prismatic reflector and 8½-inch CONTROLENS.

Cat. No.	No. of Lenses	Max. Watts Per Lens	Dimensions, Inches — Roughing Box Length	Roughing Box Width	Roughing Box Depth	Face Plate Length	Face Plate Width	Plaster Opening Length	Plaster Opening Width	Shpg. Wt. Lbs.
F-1774	1	300*	13¾	13¾	10¹¹⁄₁₆	15⅝	15⅝	14	14	32
F-1774-2	2 in line	300*	25¾	13⅞	12¼	27⅝	15⅝	26	14⅛	74
F-1774-3	3 in line	300*	37⅞	13⅞	12¼	39⅝	15⅝	38⅛	14⅛	112
F-1774-4S	4 square	300*	26	26	12¼	27⅝	27⅝	26¼	26¼	138
F-1748	1	150	10⅛	10⅛	8⅞	11¾	11¾	10⅜	10⅜	19

*Medium base — 6-inch center lamp.

Single lens units are supplied unwired; multiple units are internally wired.

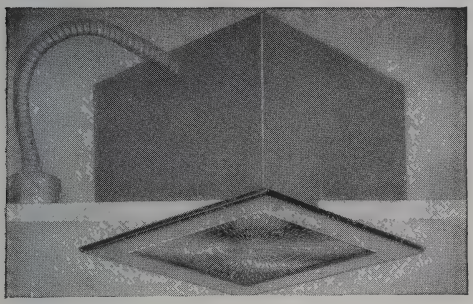
Plaster rings are not furnished with these units.

★Reg. U.S. Pat. Off.

HOLOPHANE IN-BILT FLUSH FOCUSING LIGHTING UNITS

CONTROLENS* — F-1765 SERIES

(Underwriters Approved)



No. F-1765 Mounted Flush in Ceiling

These In-Bilt units are used for three types of lighting:

General Lighting—in narrow, high ceiling interiors as may occur in some stores, churches, banks, gymnasiums, museums — where not more than two rows of outlets are used. For uniform illumination, these units should be installed on centers not exceeding 0.9 times the mounting height above the working plane.

Local Lighting—where the light is focused on people, objects, work areas, displays — as might occur with store counters, stage productions, inspection operations, laboratories, church pulpits, etc.

General-Plus-Local-Lighting—where focusing beams are used to supplement existing installations by combination with the "general" system in use.

In this manner, F-1765 In-Bilt units accentuate certain limited areas where emphasis is called for. This technique suggests an opportunity for combining incandescent punch lighting with general fluorescent lighting.

The F-1765 series consists of a CONTROLENS and prismatic reflector combination, outwardly similar to the F-1774 series but actually having a very different set of control characteristics. A variety of light patterns is possible. F-1765 uses a round reflector.

No. F-1739 unit is similar in performance, appearance and mechanical design to the F-1765 unit. It differs only in respect to over-all size and wattage capacity. F-1739 is for use with 150 watt lamp maximum and uses 8½ inch square prismatic CONTROLENS.

			Dimensions, Inches							
			Roughing Box			Face Plate		Plaster Opening		
Cat. No.	No. of Lenses	Max. Watts Per Lens	Length	Width	Depth	Length	Width	Length	Width	Shpg. Wt. Lbs.
F-1765-A	1	300*	13¾	13¾	11 11/16†	15⅜	15⅜	14	14	28
F-1765-B	1	300*	13¾	13¾	10 11/16**	15⅜	15⅜	14	14	28
F-1765-2	2 in line	300*	25¾	13⅞	12 1/16	27⅝	15⅜	26	14⅛	60
F-1765-3	3 in line	300*	37⅞	13⅞	12 1/16	39⅝	15⅜	38⅛	14⅛	93
F-1765-4S	4 square	300*	26	26	12 1/16	27⅝	27⅝	26¼	26¼	119
F-1739	1	150	10⅛	10⅛	8 1/16	11¾	11¾	10⅝	10⅝	17½

*Medium base—6-inch light center lamps. Plaster rings not furnished.

†Depth necessary for focusing distribution setting.

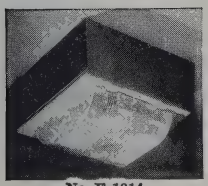
**Depth necessary for intensive distribution setting.

Single lens units are furnished unwired; multiple units are furnished internally wired.

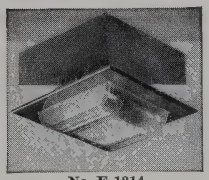
HOLOPHANE IN-BILT COUNTERLITE

FOR EITHER FLUSH OR SURFACE MOUNTING

(Underwriters Approved)



No. E-1814



No. F-1814

The name Counterlite indicates the chief application of this precision lighting unit — the lighting of store counters. Centered over the customers edge, it projects an oval pattern of light — narrow across and spread long the counter. In this way, the majority of light is concentrated on the display — resulting in higher illumination and greater attraction. Spill light takes care of traffic aisles and stock shelves.

★ Reg. U.S. Pat. Off.

These units are available for either recessed or surface mounting. The optical parts — a compound CONTROLENS and a polished aluminum reflector — are supported by a No. 16 gauge steel back box. In the case of the surface type, the standard external finish is grey baked enamel which serves as a prime coat if the unit is to be painted in with the ceiling. For use with either 200 or 300 watt medium base lamp.

		Roughing Box			
Cat. No.	Maximum Watts Per Lens	Length	Width	Depth	Shpg. Wt. Lbs.
F-1814‡	200-300*	13¾	13¾	9 7/8†	32
E-1814	200-300*	14½	14½	8¾	30

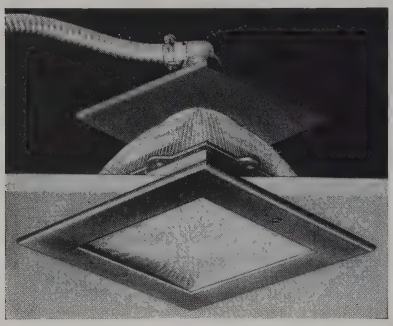
†Overall depth 9⅞ inches; recessed depth, 7 inches.

*Medium base, 6-inch light center lamp.

‡Dimensions—Face plate, 15⅝x15⅝ inches; plaster opening, 14x14 inches.

HOLOPHANE IN-BILT SQUARE "NO-BOX" LIGHTING UNITS

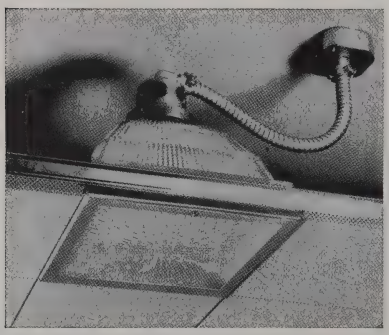
CONTROLENS* UNITS — INTENSIVE DISTRIBUTION



Nos. R-1774, R-1748

These No-Box units are designed for installation without a metal housing, which results in considerable over-all economies. Efficient lighting performance between cleaning intervals is maintained because of the enclosed construction.

The R-1774 and the R-1748 have a ceiling flange similar to the F-1774 series, and present the same external appearance. Units include plaster rings.



Nos. R-1772, R-1773

Special Designs for Accoustical-Type Ceilings

The R-1772 and the R-1773 are designed for tile or block ceilings and being 12 inches square will exactly replace a single tile. The R-1772 will fit any standard block construction such as Celotex, and may be attached directly to the ceiling framing by means of a metal frame supplied with the unit. The R-1773 was especially designed for attachment to the "T" bar construction used with tile ceilings.

★ Reg. U.S. Pat. Off.

HOLOPHANE SQUARE "NO-BOX" UNITS (Continued)

The mechanical design of these units features a square CONTROLENS in optical combination with a square prismatic reflector. All these units have an intensive light distribution and are used mainly for "general" lighting. Spacings up to 1¼ times the mounting height above the work plane will deliver a uniform degree of illumination throughout the room.

Application: Like all flush mounting In-Bilt units using Holophane CONTROLENS, these two types are suitable for lighting installations which are an integral part of the building construction and which by the same token, blend naturally with the interior design.

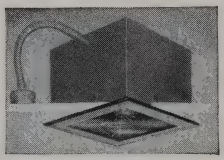
Cat. No.	Max. Watts Per Lens	Ceiling Opening Square	Recessing Depth	Face Plate Square	Shpg. Wt. Lbs.
R-1774	200–300*	14¼	11¾	15¾	20
R-1748	150	10½	9⅞	11¾	10½
R-1772	200–300*	12	12	12	15½
R-1773	200–300*	12	12	12	16

*Medium base—6-inch light center lamp.

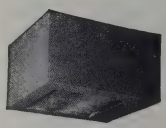
Wire is not furnished with these units.

HOLOPHANE IN-BILT SMALL SPECIAL PURPOSE LIGHTING UNITS

SMALL CONTROLENS* UNITS FOR LOCAL LIGHTING (Underwriters Approved)



No. F-1732



No. E-732

Nos. F-1722, F-1732, E-732 are usually used for local lighting in homes, stores, offices, institutions, etc. When used in general lighting layouts, space these units on centers not greater than 0.75 times the mounting height. In general, these units consist of a prismatic reflector (E-732 polished metal reflector) in optical combination with a prismatic CONTROLENS. The lighting elements are housed and assembled in a 16 gauge steel roughing box.

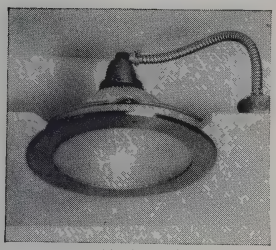
Cat. No.	Max. Watts	Dimensions, Inches: Roughing Box	Face Plate	Plaster Opening
F-1722	60	7¾x5¼x6⅝	8⅞x6⅝	8 x5½
F-1732	100	7⅞x7⅛x8¼	9⅜x9⅜	8⅛x8⅛
E-732	100	9½x8⅜x5½	----------	----------

No. E-732 is a surface mounting unit.

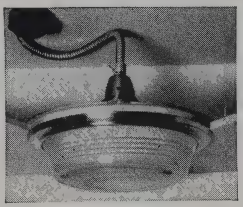
Wire is not furnished with these units.

Shipping weights: F-1722, 8; F-1732, 15; E-732, 6 lbs.

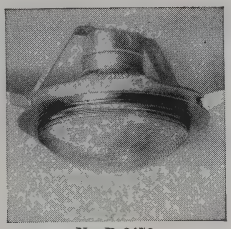
HOLOPHANE IN-BILT ROUND "NO-BOX" LIGHTING UNITS
CONTROLENS*—FLUSH AND SEMI-RECESSED
(Underwriters Approved)



No. R-1894



No. R-5544



No. R-2476

No. R-2120

R-1894: This flush unit, with round CONTROLENS, is used for general lighting applications. It has been designed for installation without metal housing, which results in considerable overall economies. Its round contour makes it suitable for certain architectural requirements. High lighting performance between cleaning intervals is assured because of the enclosed construction.

R-5544 (In-Bilt CORRECTALITE) and R-2120 series REFLECTOR-REFRACTOR): These units combine excellent design characteristics with high lighting efficiency. Both types embody semi-recessed design, with the light-controlling glassware projecting below the ceiling so as to provide some ceiling illumination. They are easily relamped through a removable prismatic bottom plate.

R-2470 is similar to R-2120 but is serviced by unthreading the glassware from a screw neck fitter. It has a symmetric distribution. Its asymmetric counter-parts are the R-2472 with an oval distribution — suitable for corridors, R-2476 for vertical surfaces — such as book stacks.

Installation is simple. All units include a plaster ring which is first set into position before the ceiling is plastered. Flexible wiring from the outlet box is brought to the socket in the fitter. The fitter (for R-1894, R-5544 and R-2120 series) is attached to the neck of the unit and the assembly, resting on the finishing ring, is bolted into position to the ears of the plaster ring. R-2470 series screws into a threaded fitter and tightens against a finishing ring.

Unit Cat. No.	Lamp Wattage	Distribution	Dimensions, Inches: Diam. Face Plate	Dph. of Recessed Portion	Diam. Glass	Ceiling Opening	Termination	Shpg. Wt. Each Lbs.
R-1889	150	Intensive	12⅝	9⅞	10⅜	12⅛	Tapped for	11
R-1894	200–300*	Intensive	15½	11¾	13½	15⅛	½" pipe	17½
			Removable Bottom Cup					
R-2110	100	Extensive	10¼	5¾	7½	9⅝	Tapped	6
R-2120	150	Extensive	12⅜	7	9¾	12		9¼
R-2130	200	Extensive	14¾	8¼	12	14⅛	for	14
R-2133	200	Intensive	14¾	8¼	12	14⅛		14
R-2140-6"	300*	Extensive	16¾	9	14	16¼	½"	20
R-2143-6"	300*	Intensive	16¾	9	14	16¼		20
R-5544	200–300*	Intensive	18¼	6¾	16	18	pipe	21½
			Screw Neck Type					
R-2460	150	Extensive	12⅜	6¼	9⅞	12		11
R-2470	150	Extensive	12⅜	6¼	9⅞	12	Knockouts	11
R-2472	150	Asymmetric Extensive	12⅜	6¼	9⅞	12	for ½" Conduit	11
R-2476	150	Asymmetric Intensive	12⅜	6¼	9⅞	12		11

*6" light center medium base lamp. Wire is not furnished with these units.

SHALLOW CLOSE CEILING UNITS

These shallow close ceiling units consist of a 22 gauge brass ceiling ring with a satin nickel outside finish and a prismatic glass reflector. The C-2171 has an extensive symmetric distribution and the C-2173 has an asymmetric (corridor-type) distribution. Both units use a 100 watt lamp and extend only 5½ inches below the ceiling.

Relamping is done by loosening three brass thumb screws in the ceiling ring.

Termination: Plate for attachment to outlet box.

Cat. No.	Lamp Wattage	Distribution	Diam. Inches	Depth Inches
C-2171	100	Symmetric	11½	5⅜
C-2173	100	Asymmetric	11½	5⅜

★ Reg. U.S. Pat. Off.

Shipping weight—6½ lbs.

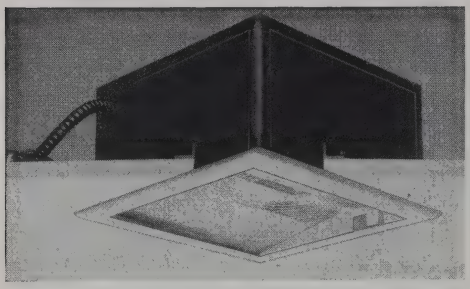
SMALL REFLECTORS FOR BRACKET SUSPENSION

Holophane reflectors Nos. B-606 and B-615 are general utility reflectors where the job calls for isolated units to be mounted on brackets. These units have an extensive light distribution and are for use with lamps ranging from 25 to 150 watts.

Cat. No.	Lamp Wattage	Dimens., Inches: Diam.	Depth	Shpg. Wt. Lbs.
B-606	25-40-60	7	7	3¼
B-615	100*-150	10	10½	6¾

*Use 1⅜ inch socket extension for 100 watt lamp.

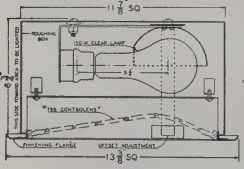
RECESSED AND SURFACE-ATTACHED CONTROLENS* UNITS FOR VERTICAL SURFACE LIGHTING



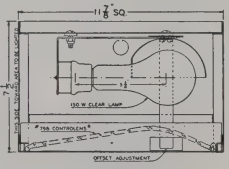
VERTICAL SURFACE LIGHTING UNIT No. F-798

The new and improved units for vertical surface lighting, F-798 (recessed) and E-798 (surface mounted) employ a radically different method of directing and spreading light on a vertical surface. A unique prismatic CONTROLENS, concave in contour, directs a high proportion of the lamp output on the vertical surface with a minimum amount of light directed back toward the viewer.

These are more than mere "lighting fixtures." They are precision instruments, constructed to such exact optical specifications that even a lamp adjusting lever is included to compensate for minor variations in light center lengths from lamp to lamp!



No. F-798

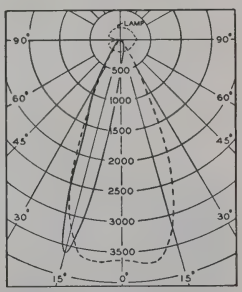


No. E-798

APPLICATIONS:

Precision lighting for:

- **Control Boards**
- **Gauge Boards**
- **Bulletin Boards**
- **Displays**
- **Murals**
- **Paintings**
- **Blackboards**



Distribution Curve, Nos. F-798 and E-798
SOLID: Vertical Distribution;
DOTTED: Lateral Distribution;
LAMP—150 watt clear, 2600 lumens.

Description: No. F-798 is a 150-watt recessed unit designed to fit into a 12-inch acoustic tile or plaster ceiling. The concave cross section of the lens, elevated position of the lamp, and the sharp prismatic control contribute to screen light from the observer's eyes. The average brightness at any normal viewing angle is less than 275 foot lamberts.

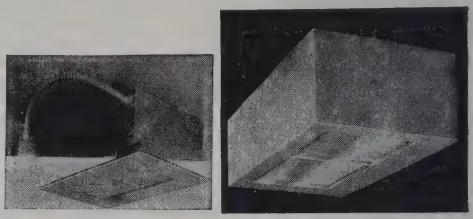
*Reg. U.S. Pat. Off.

Housing and trim of steel finished white inside, pearl gray on exposed portions. The focusing device is operated with the lamp burning and the unit in place and allows for lamp tolerances of plus or minus $\frac{5}{8}$-inch in light center length from the nominal 5¼ inches.

No. E-798 is a companion unit designed for direct attachment to the ceiling. Performance and optical details are the same as for F-798; the surface unit is suited for use where recessing is not possible because of ceiling construction. Interior finish is white; exterior gray enamel.

Detailed charts giving location data for E and F-798 units for various installation conditions and requirements are available upon request.

For installations where the CONTROLENS unit is located less than 1 ft. 6 in. above the top of the vertical surface to be lighted, Nos. F-796, F-796-2 or E-796, E-796-2 units should be used.



No. F-796-2 No. E-796-2

Installation:

Recessed Units: Ceiling opening is framed with wood or angle iron which serves to support the unit and to act as a plaster stop.

Unit is wired with 4 ft. of AF wire in Greenfield cable before being set into the ceiling. Service connections are made to an outlet box located about one foot from the ceiling opening.

Housing is set into place with bottom edge flush with finished ceiling line. Trim is attached by means of concealed screws provided. Lamp is installed and lens slipped into place.

Surface-Attached Units

Unit is provided with 4 mounting holes and knockouts in top of housing. Wire is brought from concealed outlet box located directly over unit. Surface-attached box is supported by 4 screws engaging expansion sleeves, wood plugs or other suitable means in the ceiling. Socket is wired; lamp and CONTROLENS installed.

CATALOG DATA

RECESSED TYPE

Cat. No.	Lamp Watts	Roughing Box	Face Plate	Plaster Opening
F-798	1-150*	11⅞x11⅞x6¾	13⅜x13⅜	12⅛x12⅛
F-796	1-100	9⅜x 8 x6	9⅝x 9⅜	8¼x 8¼
F-796-2	2-100	16⅝x11⅜x7	18 x11½	16⅝x10

SURFACE TYPE

E-798	1-150*	11⅞x11⅞x7½	.....	.....
E-796	1-100	9½x 8⅜x6⅞	.....	.....
E-796-2	2-100	15 x 9½x5⅞	.....	.....

*150W PS-25 clear lamp.

PRESCOLITE

recessed lighting fixtures

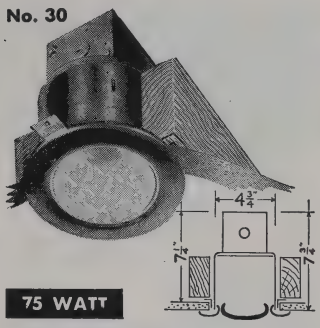
EXCLUSIVE FEATURES

Heat resisting glassware.
Plaster flanges adjust from ¼" to 1".
A type and style for any application.

CHROME FINISH IS STANDARD — SPECIFY BRASS OR ALUMINUM IF DESIRED.

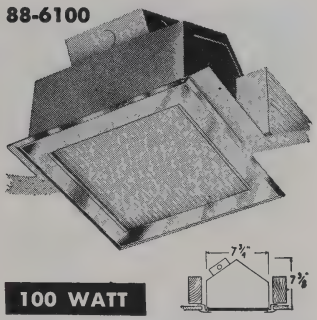
EACH FIXTURE PACKAGED INDIVIDUALLY

No. 30



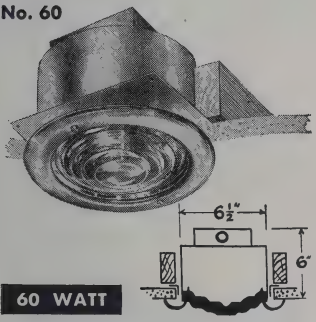
75 WATT

88-6100



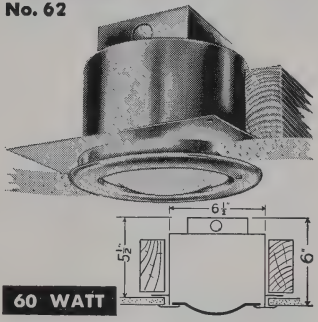
100 WATT

No. 60



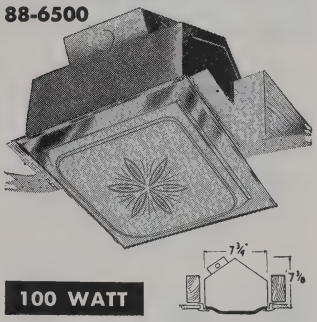
60 WATT

No. 62



60 WATT

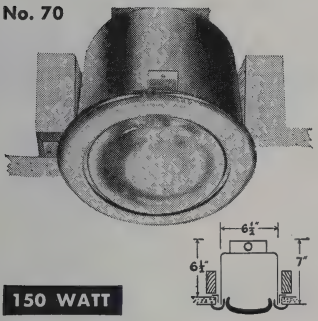
88-6500



100 WATT

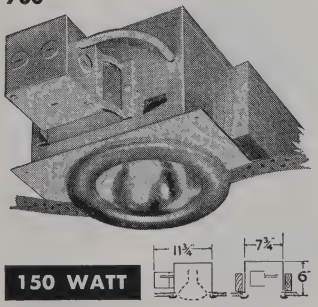
Chrome finish is standard, for aluminum or brass add "A" or "B" to Catalog Number. All finishes same price.

No. 70



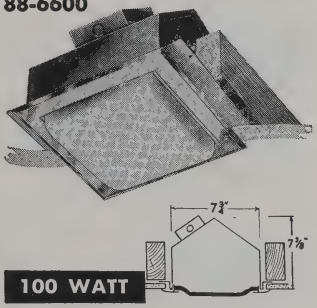
150 WATT

700



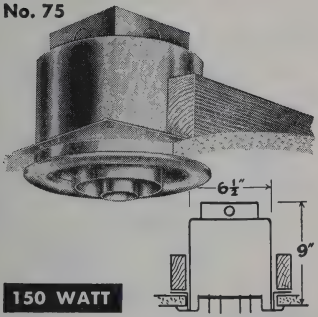
150 WATT

88-6600



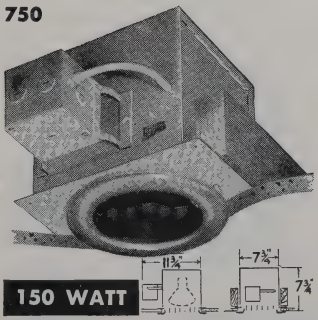
100 WATT

No. 75



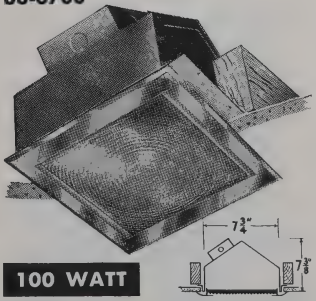
150 WATT

750



150 WATT

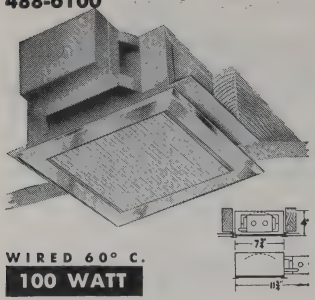
88-6700



100 WATT

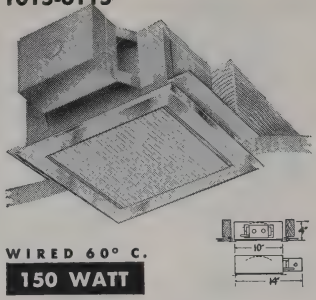
Relamp-A-Lite Swing-Way Hinges are standard on all 88 Series Fixtures

488-6100



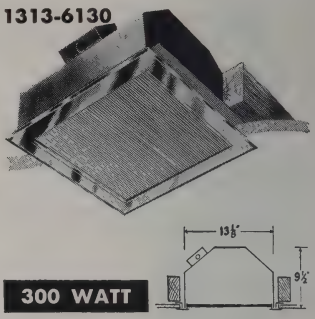
WIRED 60° C.
100 WATT

1015-6115



WIRED 60° C.
150 WATT

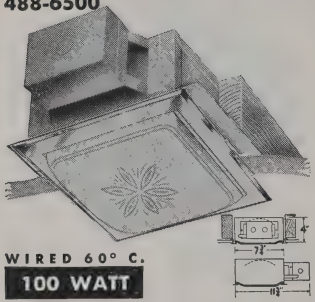
1313-6130



300 WATT

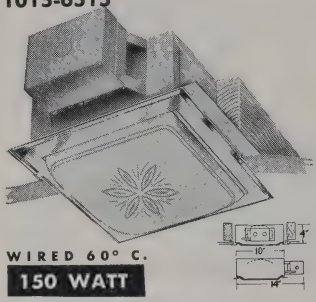
All units on this page are equipped with the patented Relamp-a-lite swing-away hinge.

488-6500



WIRED 60° C.
100 WATT

1015-6515



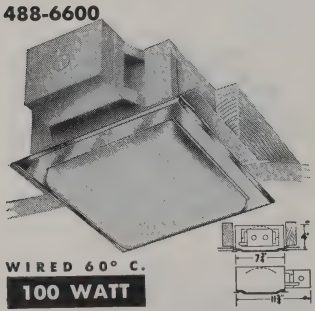
WIRED 60° C.
150 WATT

1313-6530

300 WATT

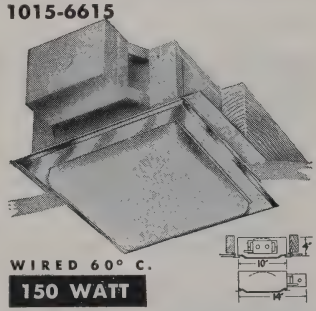
The 488 and 1015 series are wired units — approved for Type "R" Wire.

488-6600



WIRED 60° C.
100 WATT

1015-6615



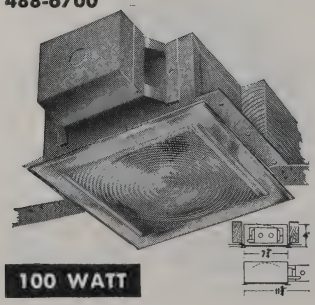
WIRED 60° C.
150 WATT

1313-6630

300 WATT

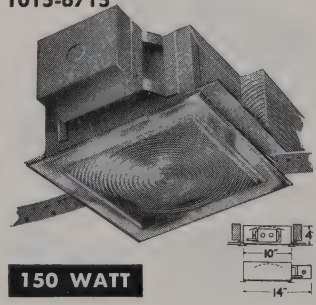
Chrome finish is standard, for aluminum or brass add "A" or "B" to Catalog Number.
All finishes same price.

488-6700



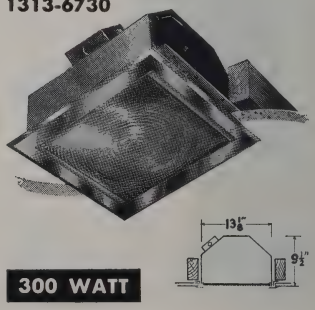
100 WATT

1015-6715



150 WATT

1313-6730



300 WATT

"Pry-lite" RECESSED LIGHTING FIXTURES

E-Z HANGER STRAPS
Merely slip into place
No screws—no bolts
Adjustable to any finish

SIMPLE WIRING
UL approved for R, T, TW wire
(1000 series only)
Easy access to pull boxes

NEW SATIN FINISHES:
C—Chrome
B—Brass
R—Copper
P—Painted

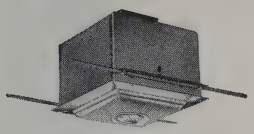
SNAP-ON FRONTS
No screws, hinges or cap nuts
Instantly installed
Easy to clean or re-lamp

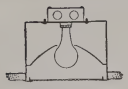
VERTICAL LAMPS
Assure longer lamp life
Better illumination
Full reflectors

(Finishes Subject to Gov't. Restrictions)

"100" SERIES Usually requires AVA wire "1000" SERIES UL approved for R, T, TW, etc. wire

150 WATTS

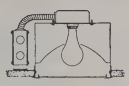




9"x9"x8"

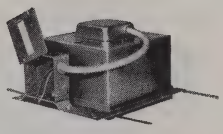
No. **100**
For Asbestos wire

(add dash No. for front—plus finish letter)



9"x9"x8"

No. **1000**
For R, T, TW etc. wire



(add dash No. for front—plus finish letter)

100 WATTS

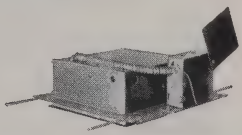
9"x9"x4"

No. **170** for Asbestos wire

(add dash No. for front—plus finish letter)

9"x9"x4½"

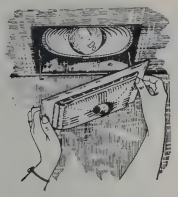
No. **1070** for R, T, TW etc. wire



(add dash No. for front—plus finish letter)

ABOVE HOUSINGS TAKE ANY OF THE FOLLOWING FRONTS

They "Snap-on!"

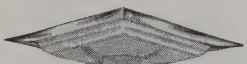


—1 lens
Bent glass

—3 lens (has clear center lens)

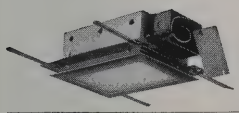
—5 lens
Pluralite glass

—2 lens
Bent glass



—4 lens (has frosted center lens)

—6 lens
Corning type lens



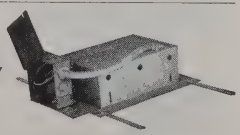
No. **109**
For Asbestos Wire

6"x9"x4"

For Narrow Soffits
100 Watts

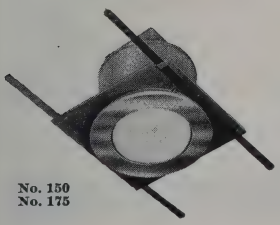
Available with—
- 31 lens (plain drop bowl)
- 32 lens (patterned drop bowl)
- 35 lens (flat pluralite glass)

No. **1009**
For R, T, TW etc. wire



8"x9"x4½"

R-40 or PAR 38 Fixtures
(Chrome only)



No. 150
No. 175

Asbestos wire type
No. 150
7" Dia. x 7⅛" 150W
No. L-155
8" Dia. x 8¾" 150W

R wire type
***No. 1050**
7" Dia. x 7⅞"
***No. 1055**
8" Dia. x 8¾"
*Can be relamped from top or bottom.

No. 1055

R-30 Fixtures

No. 175 75W | **No. 1075** 75W

"Pry-lite" RECESSED LIGHTING FIXTURES

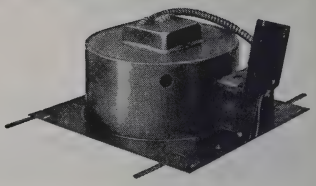
150 Watt

No. 154
For Asbestos wire
11" dia. x 7¾"

—11 lens illustrated above
(add finish letter)

150 WATT

—12 lens
(add finish letter)



11" dia. x 8" **No. 1054**
For R, T, TW etc. wire

Note: Either lens fit either of above housings

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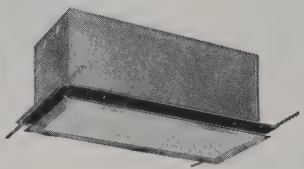
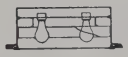
200 WATT



Illustrated with - 45 lens 8¼"x18¼"x7⅛"



No. **103** For Asbestos wire
(as illustrated)
No. **1003** For R, T, TW etc. wire
(not shown)

- 41 lens (plain drop bowl)
C—Chrome B—Brass

- 42 lens (patterned drop bowl)
R—Copper P—Painted

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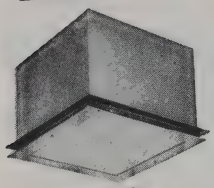
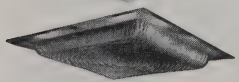
300 WATT





—23 lens

—26 Corning lens (add finish letter)

No. **167** For Asbestos wire (as shown)

No.* **1067** For R, T, TW etc. wire (not shown)

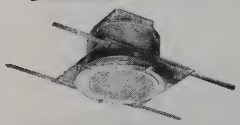
*Can be relamped from top or bottom.

Illustrated with - 25 Pluralite lens
13"x13"x12"

Also available with - 21 lens (plain drop bowl) or - 22 lens (patterned drop bowl).

These lens fit either No. 167 or No. 1067 housing.

60 WATT



6⅝" dia. x 6¼"

No. **169** For Asbestos wire (as shown)

No. **1059** For R, T, TW etc. wire (not shown)

(add finish letter)

ILLUMINATED HOUSE NUMBERS

11⅞"x3⅝"x⅞"

A readable house number using "edge light" illumination.

Has "snap-on" front. Is surface mounted for easy installation. Smooth die cast surface. Takes up to five digits. Available in Satin Aluminum, Brass or Statuary Bronze.
404-B Brass 404-SA Satin Aluminum
404-StB Statuary Bronze

No. 158 AUTOMATIC CLOSET LIGHT

4⅛"x4½"x3⅛"

New Pry-lite recessed closet light comes on automatically when door is opened. Requires no extra switch. Single outlet and one box. Adjustable lever at top of door turns light on and off as door is opened and closed.

No. 151 NIGHT LIGHT

Fills a long-felt need for bedrooms, halls, nursery and sickroom where a small amount of light is desirable at night. Has built-in switch and adjustable shutter. Density and direction of light can be controlled. Uses 7½ watt lamp. Fits flush with wall.

3¼"x4½"x3⅜"—has knockout

ALL PRY-LITES ARE UL APPROVED — ALL PRY-LITES HAVE MOUNTING STRAPS

SWIVELIER UNIVERSALLY ADJUSTABLE LIGHTING PRODUCTS

All Adjustable Swivelier Products have these Features and Advantages: No wing nuts or set screws—spring tension socket—Universally Adjustable. Will not work loose regardless of Number of Adjustments. "Stays Put—At Any Angle."

TORPEDO SINGLE EXTENSION UNITS

Completely Assembled Ready to Install

Cat. No.	Length Pipe	Wt.Lbs., Std.Pkg.	Price Each
B80-6	6″	2¼	**$13.20**
B80-12	12″	2½	**13.75**
B80-24	24″	3	**14.90**
B80-36	36″	3¾	**16.05**
B80-48	48″	4¼	**17.20**
B80-60	60″	4¾	**18.40**

Individually boxed, 1 to standard carton.

SINGLE "TORPEDO" CANOPY UNIT

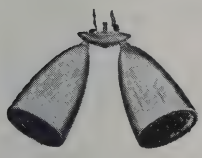
Completely wired ready to install. For attachment to 3¼ inch or 4 inch outlet box.

Cat. No.	Std. Pkg.	Wt.Lbs. Std.Pkg.	Price Each
B81	6	13	**$11.40**

Individually boxed.

Less louver.

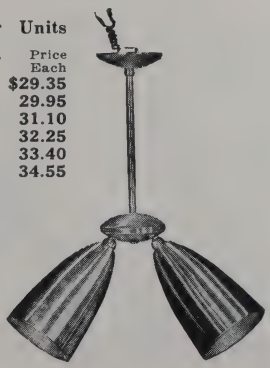
"CLUSTER TORPEDO" CANOPY UNITS



Clusters of 2, 3 or 4 Torpedo Shades on one canopy. Attached to 3¼ or 4-inch box.

Cat. No.	Cluster	Pkg. Wt.	Price Each
B82	2	2½	**$20.95**
B83	3	3½	**29.95**
B84	4	4½	**38.95**

"CLUSTER TORPEDO" PIPE UNITS



Double (2) Cluster Units

Cat. No.	Length of Pipe	Pkg. Wt.	Price Each
2B79-6	6″	4	**$29.35**
2B79-12	12″	4½	**29.95**
2B79-24	24″	5	**31.10**
2B79-36	36″	5½	**32.25**
2B79-48	48″	6	**33.40**
2B79-60	60″	6½	**34.55**

Clusters of 2, 3 or 4 Torpedo Shades mounted on one canopy.

Furnished in pipe lengths of 6 to 60 inches.

SWIVELIER UNIVERSALLY ADJUSTABLE LIGHTING PRODUCTS

TORPEDO SHADE "CLAMP-ON" UNIT

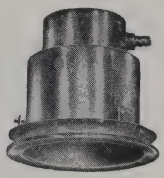
Clamps on to any flat or cylindrical surface.

Sturdily constructed clamp of heavy gauge steel, felted to prevent scratching.

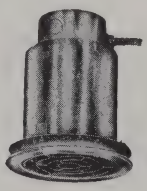
Cat. No.	Std. Pkg.	Pkg. Wt.	Price Each
With 1-Inch Clamp			
B817	6	10	**$10.50**
With 2-Inch Clamp			
B827	6	13	**11.90**

SWIVELIER "TOP-LITES"

Recessed Lighting Units



No. 807

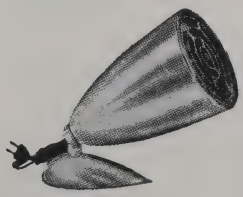


No. 811

Made of heavy gauge aluminum with steel plaster rings. Edge of lip rolled to improve appearance. Complete one-piece assembly—for quick easy installation. All screws concealed. Accommodates R40 or PAR38 bulb. Individually packed 12 of one item to standard carton. Standard Top-Lite comes with Louver only; Junior Top-Lite comes without Louver only.

Cat. No.	Description	Ctn. Wt.	Price Each
828	Junior Top-Lite, Less Greenfield ..	34	**$6.55**
807	Junior Top-Lite, With Greenfield..	40	**7.10**
829	Stand. Top-Lite, Less Greenfield ..	39	**8.85**
811	Stand. Top-Lite, With Greenfield..	45	**9.40**

"TORPEDO" PORTABLE UNIT

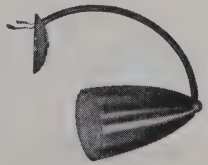


Highly polished Chromium-plated, or Brushed Satin with Infra-baked clear lacquer. Comes with 6 ft. cord and plug; weighted base to prevent tipping. Hole in back of base for wood-screw mounting.

Cat. No.	Finish	Std. Pkg.	Wt.Lbs., Std.Pkg.	Price Each
B627SA	Brushed Satin	6	25	**$11.40**

"TORPEDO" CURVED PIPE UNITS

Available in 12″ or 24″ arm with leads, or with cord, plug and switch.



Cat. No.	Length Pipe	Price Each
With Leads		
B86	12″	**$14.40**
B88	24″	**15.55**
With Cord, Plug and Switch		
B92	12″	**15.30**
B94	24″	**16.50**

SWIVELIER UNIVERSALLY ADJUSTABLE LIGHTING PRODUCTS

ECONOMICAL — INFRA-BAKED FINISH "HOOD" SHADE UNITS

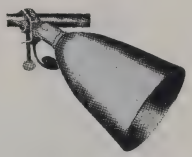
"HOOD" EXTENSION UNITS

Completely assembled, ready to install. Pipe lengths, 5 to 48 inches. Brings the light down to where wanted.

Cat. No.	Pipe Length	Wt.Lbs., Std.Pkg.	Price Each
H57-5	5″	3½	$ 9.10
H57-11	11″	4	9.90
H57-24	24″	4½	11.80
H57-36	36″	5	13.55
H57-48	48″	5½	15.30

Individually boxed, one to a carton.

"HOOD CLAMP-ON" UNIT



For adjustable clamp attachment completely wired, ready to plug in. Comes with cord and plug. Up to 1-inch or 2-inch diameter clamp.

Cat. No.	Description	Std. Pkg.	Pkg. Wt.	Price Each
H817	1-Inch Clamp	6	10	$9.20
H827	2-Inch Clamp	6	12	10.60

HOOD COMBINATION AND CLUSTER UNITS ON DOME PLATE

No. H-57

Clusters of 2, 3 or 4 Hood Shades on One Dome Plate.

Completely wired, ready to install, on 3¼-inch or 4-inch outlet box.

Cat. No.	Description	Std. Pkg.	Wt.Lbs., Std.Pkg.	Price Each
H57	On Combination Plate	6	10	$ 8.25
H257	Two Clusters	1	4	16.55
H357	Three Clusters	1	5	24.80
H457	Four Clusters	1	6	33.00

"HOOD" PORTABLE UNIT

New streamlined design. Comes completely wired with cord and plug ready to plug in. Felted smooth base, weighted, prevents scratching. Streamlined Hood Shade accommodates PAR 38 and R40 bulbs.

Price, No. **H607**....each **$9.00**

SWIVELIER UNIVERSALLY ADJUSTABLE LIGHTING PRODUCTS

"HOOD" SCREW-IN UNITS

H107-8

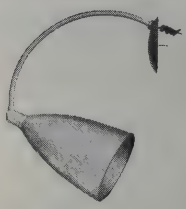
H107

Easy to install, screw into existing receptacles. Converts any rigid socket into a Universally Adjustable Spot-Lite.

Cat. No.	Pipe Length	Length Overall	Std. Pkg.	Wt.Lbs., Std.Pkg.	Price Each
H107	None	12⅜″	6	9	$ 7.75
H107-5	5″	16½″	6	16	8.70
H107-8	8″	19½″	6	16	9.20
H107-11	11″	22½″	6	17	9.65

"HOOD" CURVED ARM UNIT

Available in 12 or 24-inch arm, with leads or with cord, plug and switch.



Cat. No.	Pipe Lgth.	Wt.Lbs., Std.Pkg.	Price Each
With Leads			
H56-12	12″	2	$11.10
H56-24	24″	2½	11.95
With Cord, Plug and Switch			
H58-12	12″	2½	11.95
H58-24	24″	3	12.85

SWIVELIER LOUVER

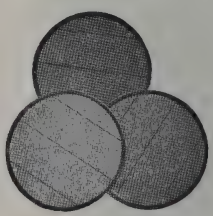
Cat. No. V

For use with "Hood" and "Torpedo" Shades. Spring clips attach to lip of shade. Made of steel.

Price, No. V Swivelier Louver .....each **$1.80**

SWIVELIER SECTIONAL COLOR LENSES

Attaches to inner spring clip on louver.



Cat. No.	Color	Price Each
999-1	Ruby Red	$1.05
999-2	Deep Blue	.80
999-3	Med. Green	.80
999-4	Med. Amber	.80
999-5	Pink	.80
999-6	Daylite Blue	.80
999-7	Med. Blue	1.05
999-8	Magenta	1.05
999-9	Med. Red	1.60
999-10	Surprise Pink	$1.05
999-11	Light Amber	.80
999-12	Lemon Yellow	2.10
999-13	Light Green	.80
999-14	Blue Violet	1.05

SWIVELIER UNIVERSALLY ADJUSTABLE LIGHTING FIXTURES

SINGLE SOCKET ON 3¼" OR 4" FLAT BOX PLATES

No. 547L

Cat. No.	Mechanism	Size Cover	Price Each
	No Leads		
530	Push-thru	3¼"	$2.20
540	Push-thru	4 "	2.30
537	Porcelain	3¼"	2.05
547	Porcelain	4 "	2.10
	With Leads		
530L	Push-thru	3¼"	2.40
540L	Push-thru	4 "	2.50
537L	Porcelain	3¼"	2.25
547L	Porcelain	4 "	2.30

SINGLE SOCKET ON COMBINATION PLATE

For attachment to 3¼-inch or 4-inch boxes. Wired with leads. No. 57 porcelain socket, keyless.

Cat. No.	Mechanism	Size Cover	Price Each
50	Push-thru	4¾"	$2.85
57	Porcelain	4¾"	2.70

SOCKET "CLUSTER" UNITS

With leads. Two, 3 or 4 sockets on one dome. Fits 3¼-inch or 4-inch outlet boxes. Completely assembled, ready to install.

Cat. No.	Clusters	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
2547	2	10	14	$4.40
3547	3	10	17	6.70
4547	4	10	20	9.05

WEATHERPROOF GASKET

Gasket fits on porcelain and hugs neck of PAR 38 bulbs making tight seal. Makes a simple and inexpensive "yard-light" for outdoor use.

Price, No. **945-4** Rubber Gasket ..... each **$0.20**

"TEAR DROP"—PORTABLE UNIT

Available in chrome-plated or brushed-satin finish. Heavy weighted base, felt bottom. Hole in back of base for wood screw attachment. Complete with cord and plug, ready for use.

Cat. No.	Finish	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
627SA	Brushed Satin	12	30	$4.20

"NIMBLE-LITE"

Infra-baked aluminum finish. Weighted base with two holes for screw attachment. Felted to prevent scratching. Complete with cord and plug.

Price, No. **607AN** "Nimble-Lite" **$3.10**

SWIVELIER UNIVERSALLY ADJUSTABLE LIGHTING FIXTURES

No. 107

No. 107-8

SCREW-IN UNITS

Completely wired, ready to screw-in. With or without extension pipes. Converts any rigid socket into a Universally Adjustable Spot Lite. Provides adjustable lighting from recessed ceiling fixtures.

Finish—Infra-baked aluminum lacquer.

Cat. No.	Pipe Length	Length Overall	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
	With Push-Thru Mechanism				
100	None	5¼"	10	5¼	$2.20
	With Porcelain Keyless Mechanism				
107	None	5¼"	10	5¼	1.90
107- 5	5"	10⅛"	10	6½	2.85
107- 8	8"	13⅛"	10	7	3.30
107-11	11"	16⅛"	10	7½	3.85

SWIVELIER "CLAMP-ON" UNIT

Porcelain keyless or push-thru mechanism. Attach to flat or round surface.

Cat. No.	Mechanism	Std. Pkg.	Pkg. Wt.	Price Each
	With 1-Inch Clamp			
817	Porcelain	10	9	$3.30
810	Push-thru	10	9	3.35
	With 2-Inch Clamp			
827	Porcelain	10	10	4.75

"ESCUTCHEON" UNIT

Porcelain, keyless. Complete with cord and plug. Ready to use. Two (2)-inch diameter plate, three (3) holes for "pin-up" attachment.

Price, No. **517** ..... each **$2.40**

SWIVELIER "ALL-PURPOSE" LAMP

DIRECT or INDIRECT USE

For Homes, Stores, Showrooms

Excellent for highlighting:

Jewelry
Hosiery
Lingerie

when used with Blue-Daylight Bulb.

Choice of two rich finishes. Complete with cord, plug and switch.

Cat. No.	Finish	Price Each
960BR	Infra-Baked Bronze	$11.90

SWIVELIER Universally ADJUSTABLE "CHANNELITES"

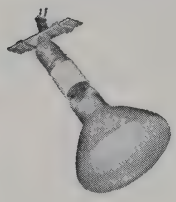
For Use On Wiremold Raceways Nos. 2100 and 3000

All Prices Less Bulb

Wired with Leads, Ready to Install

FOR USE ON WIREMOLD RACEWAY No. 2100

Bare Unit



No. 721
List Price $2.70
Carton 12
Carton weight 7

Air-Cooled Unit

No. F721
List Price $5.10
Carton quantity 6
Carton weight 10

Finish: Infra-Baked aluminum.

Hood Shade Unit

No. H721
List Price $8.55
Carton quantity 6
Carton weight 11
Finish: Infra-Baked Aluminum.

Torpedo Shade Unit

No. B721
List Price $9.85
Carton quantity 6
Carton weight 11
Finish: Brushed Satin.

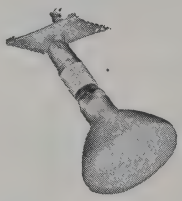
Midget Shade Unit

No. M721
List Price $9.35
Carton quantity 6
Carton weight 10

Finish: Brushed Satin Aluminum.

FOR USE ON WIREMOLD RACEWAY No. 3000

Bare Unit



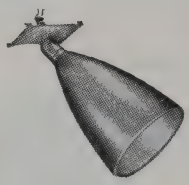
No. 730
List Price $2.95
Carton quantity 12
Carton weight 8

Air-Cooled Unit

No. F730
List Price $5.35
Carton quantity 6
Carton weight 11

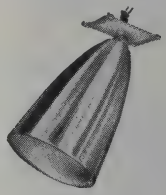
Finish: Infra-Baked aluminum.

Hood Shade Unit



No. H730
List Price $8.80
Carton quantity 6
Carton weight 12
Finish: Infra-Baked Aluminum.

Torpedo Shade Unit



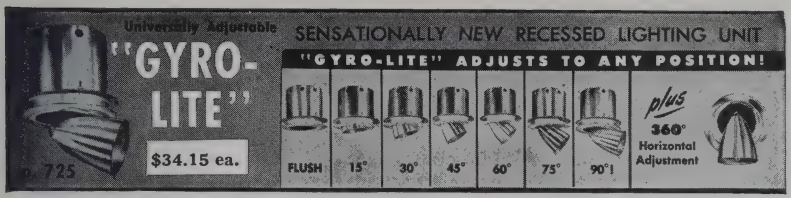
No. B730
List Price $10.15
Carton quantity 6
Carton weight 12
Finish: Brushed Satin.

Midget Shade Unit

No. M730
List Price $9.60
Carton quantity 6
Carton weight 11

Finish: Brushed Satin Aluminum.

SWIVELIER'S UNIVERSALLY ADJUSTABLE RECESSED LIGHTING UNITS



"GYRO-LITE"
Cat. No. 725
List Price $34.15 ea.
Packed one (1) to Std. Ctn.
Ctn. Wt. 5 Lbs.

"GYRO-LITE" LOUVER
Cat. No. 726
List Price $2.40 ea.
Packed one (1) to Std. Ctn.
Ctn. Wt. ½ Lb.

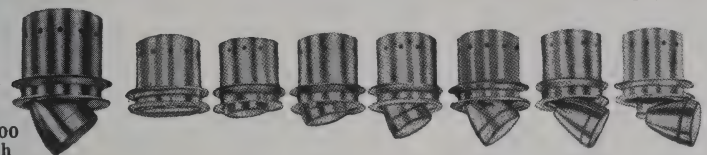
Louver accommodates Sectional (999 Series) Color Lens.

For 75-Watt R-30 or 150-Watt Par 38 Lamps

NEW UNIVERSALLY ADJUSTABLE "PAR-BEAM-LITE" OFFERS 2 INTENSITIES OF ILLUMINATION

For High Ceiling Lighting Applications

For 300-Watt PAR 56 Lamp (initial 100,000 Beam Candle Power) or 200-Watt PAR 46 Lamp (initial 50,000 Beam Candle Power)



Cat. No. 656 $52.00 Each

1 to Std. Ctn. Ctn. Wt. 9 Lbs.

Flush 15° 30° 45° 60° 75° 90°

Plus 360° Horizontal Adjustment

LOUVER Grid is removable.
Cat. No. **657**
List Price.....**$4.20 ea.**
One (1) to Std. Ctn.
Ctn. Wt. 1 Lb.

ADAPTER RING (For use with PAR 46)
Cat. No. **658**
List Price.....**$2.10 ea.**
One (1) to Std. Ctn.
Ctn. Wt. 1 Lb.

SECTIONAL COLOR-LENS

(Can be used in Louver housing with or without grid).

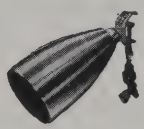
Cat. No.	Color	List Price Ea.
666-1	Ruby Red	$2.05
666-2	Deep Blue	1.80
666-3	Med. Green ..	1.80
666-4	Med. Amber ..	1.80
666-5	Pink	1.80
666-6	Daylite Blue..	1.80

Packed six (6) of one color to Std. Ctn., Ctn. Wt. 4½ Lbs.

SWIVELIER'S UNIVERSALLY ADJUSTABLE "MIDGET-LITES"

For Use with 75-Watt R-30 Lamps and 100-Watt Standard Lamp

M107



M817

M81

M627

Cat. No.	Description	Std. Ctn.	Ctn. Wt.	Price Each
M107	Screw-in	6	11	**$8.55**
M817	1-in. Clamp, Clamp-on, Cord and Plug	6	12½	**10.00**
M81	Canopy	6	12½	**$10.85**
M627	Portable, Cord & Plug	6	19½	**10.85**

"MIDGET-LITE" EXTENSION UNITS

Completely assembled ready to install. For use with 75-watt R-30 lamp and 100-watt standard lamp.

Cat. No.	Length Pipe Inches	Carton Wt. Lbs.	Price Each
M80- 6	6	2	**$12.70**
M80-12	12	2½	**13.25**
M80-24	24	3¼	**14.40**
M80-36	36	4	**15.55**
M80-48	48	4	**16.70**

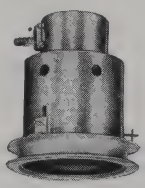
Packed one (1) to std. ctn.

"MIDGET" LOUVER

For use with "Midget-Lites" and "Midget Top-Lites."

Cat. No.	Standard Carton	Carton Wt. Lbs.	Price Each
781	6	3	**$2.40**

Accommodates 777 Series Lenses.

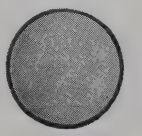


RECESSED "MIDGET-TOPLITE"

For Use with 75-Watt R-30 Lamps and 100-Watt Standard Lamp

Cat. No.	Description	Carton Wt. Lbs.	Price Each
780	Illustrated	18½	**$6.55**
785	780 less Greenfield	15½	**6.05**

Includes Plaster Ring. Packed six (6) to std. ctn.



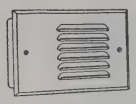
"MIDGET" LENSES 777 SERIES

For use with "Midget-Louver" No. 781, Sectional Color Lens, color fast, heat resistant.

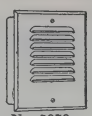
Cat. No.	Color	Std. Ctn.	Ctn. Wt.	Price Each
777-1	Ruby Red ..	6	2½	**$1.00**
777-2	Deep Blue ..	6	2½	**.75**
777-3	Med. Green	6	2½	**.75**
777-4	Med. Amber	6	2½	**.75**
777-5	Pink	6	2½	**.75**
777-6	Daylite Blue	6	2½	**.75**

DAY-BRITE AISLE AND SIGNAL LIGHTS

Nos. 5050, 5080



No. 5060



No. 5070

No. 5055

Aisle and signal lights for hospitals, schools, public buildings and residences. Manufactured in several sizes with various louver arrangements. Substantial construction for long service.

Lamps in the 5050, 5070 and 5080 are upright and in the 5060 are horizontal. The use of inside frosted lamps is recommended.

Aisle Lights—No. 5050 and 5080 furnished complete with outlet box, porcelain enameled reflector, sign receptacle, louver cover and special alignment strips for squaring up of cover plate. Fixtures No. 5060 and 5070 as above except for porcelain reflector not included, interior sprayed aluminum.

Signal Lights—Same equipment as aisle lights, No. 5050, except that stippled glass roundels are used on cover, in place of louvers. Roundels are 3¾ inches diameter and are available in clear, red, amber, green and blue.

Lacquer Finish

Cat. No.	Box Wdth.	Box Hght.	Dpth.	Lamp	Weight Each, Lbs.	Price
5050	4 1/16	4 1/16	2⅛	S-11, 10W	3	**$6.93**
5060	7	4 1/16	3	Type A to 75W	3	**8.80**
5070	4 1/16	7	3	Type A to 75W	3	**8.80**
5080	4 1/16	5⅞	2¾	Type A to 40W	3	**9.13**
5055	4 1/16	4 1/16	2⅛	S-11, 10W	3	**7.60**

Box—Galvanized, code thickness.

Cover—16-gauge steel.

Knockouts—At sides and end at socket location.

Finish—Baked Super-White or lustre aluminum enamel. Specify when ordering.

TRIANGULAR EXIT SIGNS

Not Wired

No. 9935 Ceiling Mounting shown at right.

Cat. No.	Size Letters In.	Hgt. In.	Depth Front to Back In.	Lgth. Each Face In.	Lgth. Back In.	Wt. Lbs.	Price Each
2865	5	7	10	11¼	11¼	18	**$22.00**
2866	6	8	10½	11¾	11¾	20	**23.87**
2867	8	10	12⅜	14	13¾	25	**27.83**

Signs have two porcelain sockets for Type A Lamps. Removable front permits sliding in of glass and relamping. Top and bottom solid. For flashed opal glass at bottom, add **$4.40**. For No. 9935 ceiling mounting in lengths to 2 feet, add **$4.95** each. For additional lengths, add **$0.55** per ft.

Finishes and Glass—Same as Exit Signs shown in next column.

DAY-BRITE EXIT SIGNS

Surface Type

Flush Type

Inexpensive exit signs of sturdy construction, manufactured of steel as listed. Boxes on flush type signs are made of 16-gauge steel, and on surface type are made of 20-gauge steel. Hinged frames are made of rolled steel molding. Each box has two sockets on wireway. Fixtures are furnished unwired.

Flush Type — Removable Frame

Cat. No.	Size Letters Inches	Overall Trim Hgt. In.	Overall Trim Wdt. In.	Box Size Hgt. In.	Box Size Wdt. In.	Box Size Dpth. In.	Wt. Lbs.	Price Each
2850	5	8¼	12½	7⅛	11¼	3½	15	**$12.32**
2851	6	9¼	13½	8⅛	12¼	3½	17	**13.42**
2852	8	11¼	15½	10⅛	14¼	3½	19	**15.62**

Flush Type — Hinged Frame

3010	5	8	12¼	7⅛	11¼	3½	16	**23.65**
3011	6	9	13¼	8⅛	12¼	3½	18	**25.30**
3012	8	11	15¼	10⅛	14¼	3½	20	**28.05**

Surface Type — Slide-in Glass

2870	5	....	....	7	11¼	3½	12	**12.76**
2871	6	....	....	8	12⅛	3½	13	**14.30**
2872	8	....	....	10	13¾	3½	15	**16.50**

Surface Type — Hinged Frame

3030	5	....	....	8	12¼	3½	12	**19.91**
3031	6	....	....	9	13¼	3½	13	**22.22**
3032	8	....	....	11⅛	15¼	3½	15	**25.19**

End Mounted—Double Face—Slide-in-Glass

Cat. No.	Size Letters In.	Mtg. Plate Lgth. In.	Mtg. Plate Wdt. In.	Box Size Hgt. In.	Box Size Wdt. In.	Box Size Dpth. In.	Wt. Lbs.	Price Each
3025	5	8⅝	4½	7	11⅛	3½	7	**$19.36**
3026	6	9½	4½	8	12⅛	3½	9	**20.90**
3027	8	11¾	4½	10	13⅝	3½	10	**23.87**

Top Mounted—Double Face—Slide-in-Glass

3065	5	12¾	4½	7	11¼	3½	7	**21.67**
3066	6	13⅝	4½	8	12⅛	3½	9	**23.21**
3067	8	15¼	4½	10	13¾	3½	10	**26.18**

Finish—Metallic bronze lacquer.

Guards—Steel wire guards finished in baked bronze enamel **$4.40** each.

Glass—White glass with green lettered effect is standard.

KLIEGL FOOTLIGHTS

DISAPPEARING TYPES

When not in use are closed down flush with stage floor. Furnished in standard 5 ft. lengths. Completely assembled. Wired for 3 colors. Automatic mercury "on" and "off" circuit switches. Solid kiln-dried oak flooring. Malleable iron cross brackets, positive latches. Terminal blocks for feeder connections.

No 829

Open trough style with continuous reflector, sprayed white. For use with colored lamps.

No. 829—Single row receptacles, continuous flooring, 5 ft. sections, 15 outlets, 60/100 watts **$71.50**

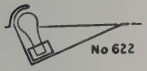
No. 832

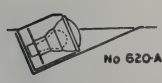
Individual reflector styles, with individual Alzak aluminum reflectors and glass color-roundels; for use with clear or inside-frosted lamps.

No. 832—Single row individual reflectors, hinged mounting continuous flooring, 5 ft. section, 12 outlets, 100 watts.....**$88.00**

PERMANENT TYPES

Fixed in position. Hood extends minimum above stage floor. Any length or curvature required. Wired as specified, for 3 or more colors. Receptacles spaced as indicated.


No 622


No 620-A

No. 622 — Single row receptacles, open trough continuous reflector sprayed white, 60/100 watt outlets, spaced 4" on centers.....Price on application*

No. 620A — Single row receptacles, individual Alzak aluminum reflectors, glass color roundels, 100 watt outlets, spaced 6" on centers.

Price on application*

*Specify: length, straight or curved, and number of lamps for each color.

KLIEGL LIGHT STRIPS

STAGE TYPES

No. 650

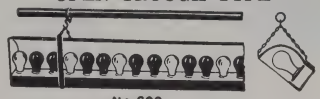
Used at entrances, back of transparencies, behind ground rows, and for general service. Portable trough reflector with series of screw-base receptacles for 40/150 watt lamps, wired on one 2-wire circuit, terminating in suitable splice box.

Cat. No.	Description	Length Feet	Price Each
649	2-light strip	1½	**$ 9.35**
650	4-light strip	3	**16.50**
651	6-light strip	5	**19.80**
652	10-light strip	8	**26.40**

KLIEGL BORDERLIGHTS

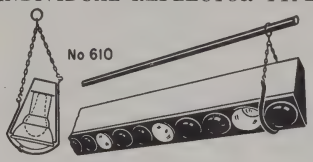
Any continuous length, or in sections. Wired as specified, for 3 or more colors. Complete with splice box, scenery guards, and chain hangers.

OPEN TROUGH TYPE


No 600

No. 600—For colored lamps. Continuous reflector sprayed white, 60/100 watt outlets, spaced 4" on centers.....Price on application

INDIVIDUAL REFLECTOR TYPE


No 610

For clear or inside frosted lamps. Alzak aluminum individual reflectors. Heat-resisting glass color roundels, hinged-ring roundel holders. Porcelain screw-base receptacles.

No. 610—100 or 150 watt outlets (as specified) 6" on centers.....Price on application

KLIEGL POCKETS AND PLUGS

STAGE-FLOOR TYPE POCKETS

No. 354

Set in floor flush with surface. Have hinged self-closing cover notched for passage of cable. Fitted with heavy-duty plug outlets. Furnished complete with plugs. Listed by Underwriters.

No. of Outlets	2-Wire, No Ground — Cat. No.	Amperes per Outlet	Price Each	2-Wire, Plus Ground* — Cat. No.	Amperes per Outlet	Price Each
1	**351**	50	**$18.70**	**355**	30	**$22.55**
2	**352**	{1–25} {1–50}	**30.80**	**356**	30	**38.50**
3	**353**	25	**38.50**	**357**	30	**56.65**
4	**354**	25	**50.60**	**358**	30	**74.80**

*Plus Ground: Outlets have additional contactor for extra ground wire; an additional main terminal also is provided for ground-wire feeder connections.

WALL TYPE POCKETS

Heavy-duty plug outlets for use wherever heavy current temporary connections are required — in theatres, projection booths, photographic studios, hotels, schools, industrial plants, etc. Furnished complete with plugs. Listed by Underwriters.

No. of Outlets	2-Wire, No Ground — Cat. No.	Amperes Per Outlet	Price Each	2-Wire, Plus Ground* — Cat. No.	Amperes Per Outlet	Price Each
			Flush Wall Mounting			
1	**310**	50	**$14.85**	**361**	30	**$20.90**
2	**311**	50	**23.65**	**362**	30	**35.75**
3	**312**	50	**34.65**	**363**	30	**52.80**
4	**313**	50	**45.65**	**364**	30	**69.85**
1	**1310**	100	**31.90**	**2310-G**	60	**33.00**
1	**4310**	200	**44.00**	**4310-G**	100	**52.80**
			Surface Wall Mounting			
1	**307**	50	**$11.00**	**366**	30	**$17.05**
2	**317**	50	**19.80**	**367**	30	**31.90**
3	**318**	50	**29.70**	**368**	30	**47.30**
4	**319**	50	**39.60**	**369**	30	**63.80**
1	**1307**	100	**22.00**	**2307-G**	60	**22.00**
1	**4307**	200	**39.60**	**4307-G**	100	**48.40**

*Plus Ground: Outlets have additional contactor for extra ground wire; an additional main terminal also is provided for ground-wire feeder connections.

KLIEGL PLUGGING BOXES

PORTABLE TYPES

For conveniently and quickly connecting several circuits to single outlet. Plug receptacles mounted in fire-proofed case. Each receptacle independently fused. Feeder cable enters through special clamp.

No. of Outlets	Amperes per Outlet	2-Wire Main Cat. No.	2-Wire Main Price Each	3-Wire Main Cat. No.	3-Wire Main Price Each
		Ungrounded System*			
6	30	**346–2**	**$52.80**	**346–3**	**$52.80**
12	30	**401**	**105.60**	**403**	**105.60**
4	50	**404**	**44.00**	**405**	**44.00**
6	50	**406**	**63.80**	**407**	**63.80**
		Grounded System†			
2	30	**472**	**46.20**	**473**	**49.50**
4	30	**474**	**68.20**	**475**	**71.50**
6	30	**476**	**100.10**	**477**	**104.40**

*Ungrounded types listed have 2-wire no-ground outlets.
†Grounded types listed have 2-wire-plus-ground outlets, and both 2- and 3-wire mains have extra terminal for ground wire feeder connections.
Furnished with cartridge fuses, unless otherwise ordered. Other arrangements for heavier current demands also available.

KLIEGL RECESSED CEILING FIXTURES

FRESNEL-LENS UNITS

Flush inbuilt type. Provide high intensity direct illumination. Accommodate standard screw base general-service incandescent filament lamps. Furnished complete with back box, mounting arrangements, wired porcelain receptacle, Alzak aluminum reflector, Fresnel lens with painted risers, and hinged front frame.

CIRCULAR LENS TYPES

Fitted with circular Fresnel lens of listed diameter. Circular front frame. Cylindrical back box. Plaster ring.

Cat. No.	Lens Diam. Inches	Lamps Watts	Price Each
22 F 06	6	100	**$20.70**
22 F 08	8	150	**25.30**
22 F 12	12	200/300	**34.50**
22 F 14	14	300/500	**46.00**
22 F 16	16	500/750	**57.50**

SQUARE LENS TYPES

Fitted with square shaped Fresnel lens of indicated size. Square hinged front frame. Rectilinear back box.

Cat. No.	Lens Diam. Inches	Lamps Watts	Price Each
24 F 06	6	100	**$25.30**
24 F 08	8	150	**29.90**
24 F 12	12	200/300	**34.50**

KLIEGL PICTURE LIGHTS

PROJECTOR TYPES

Fitted with objective lens system and adjustable framing shutters, permitting confinement of light within picture area.

Cat. No.	Lamp Watts	Type of Lamp	Price Each
276	75 or 100	G16½ Bayonet Base	**$26.40**
276AA	100	P25 Med. Screw Base	**33.00**
	250 or 400	G30 Med. Screw Base	

KLIEGL DOWNLIGHTS

OVER-CEILING FIXTURES

Concealed types. Project light beam through small hole in ceiling. Provide high-intensity direct illumination. Various designs for both general and defined-area lighting.

FIXED BEAM TYPES

For general lighting. Give soft edge beam. Use standard service lamps.

Furnished with ellipsoidal reflector and fixed-focus lens system. Relamped from above or below ceiling.

Cat. No.	Description	Price Each
2501	150 watt, medium screw base	**$55.20**
2503	200/300 watt, medium screw base	**55.20**
2504	300/500 watt, mogul screw base	**82.80**
2505	750/1000 watt, medium Bipost	**86.25**

ADJUSTABLE BEAM TYPES

For defined lighting and general illumination, for straight down or approximately 45-degree angular projection. Sharp or soft-edge cut-off. Shape and size of beam can be regulated. Equipped with focusable lens system, adjustable framing shutters, and reflector. Use concentrated filament type lamps.

Pin-Hole Spot Units

Relamped from below. Furnished with plaster ring, removable aperture plate, spherical reflector. Listed by Underwriters'.

Cat. No.	Rating Watts	Projection	Price Each
2145	100	Straight Down	**$41.40**
2146	100	Angular	**41.40**

High Ceiling Units

Relamped from above. Finished with plaster cone, and ellipsoidal reflector.

Straight Down Projection

Cat. No.	Description	Price Each
2164	250/500 watt	**$46.00**
2166	1000 watt	**78.20**
2168	1500/2000 watt	**95.45**

Angular Projection

Cat. No.	Description	Price Each
2165	250/500 watt	**$52.90**
2167	1000 watt	**82.80**
2169	1500/2000 watt	**101.20**

KLIEGL COLOR WHEELS

Hand Operated

Cat. No.	Lens Diam. Inches	No. of Colors	Lens Size* Inches	Price Each
14	13½	5	4½	**$3.85**
22	18	5	5 or 6	**6.60**
24	20	7	5 or 6	**9.90**
23	24	5	8	**14.30**

Motor Operated†

14AC	15⅜	6	4½	**20.90**
31AC	20	6	5 or 6	**39.60**
35AC	24	5	8	**44.00**

*For Spotlights.
†A-C. motors. Also can be furnished with D-C. motors—prices on application.

STANDARD COLOR GELATINES

Conventional Gelatine, 20" x 24" sheets.
Price, ... per sheet **$0.18**

KLIEGL "KLIEGLIGHTS"

High intensity light beam projectors with ellipsoidal reflectors, lens systems, and coordinated shutter arrangement which permits direct regulation of size and shape of beam in every conceivable manner, so as to confine the light within any desired area. Accommodate standard bipost base up burning concentrated filament lamps.

MOUNTED TYPES

For permanent installation. Supplied with square shutters, short leads, wall bracket, pipe clamp or table base. (Can be supplied on floor-stands at additional cost).

Drop-In Shutter Arrangement

Cat. No.	Watts	Lens Diam. Inches	Price Each
1163-B	250/500	5	$36.80

Built-In Square Shutter Arrangement

Cat. No.	Watts	Lens Diam. Inches	Price Each
1365-B	250/500	6	$44.00
1165-B	250/500	6	67.10
1366-B	1000/2000	6	110.00
1368-B	1000/2000	8	121.00

For Iris Shutters, add $16.50 to above prices.

BOOTH-SPOT TYPES

High powered. Mounted on telescopic floor stands with rubber tired casters. Equipped with built-in iris and curtain shutters. Controls conveniently located and arranged for quick and easy manipulation. Furnished with 25 ft. cable and switch.

Cat. No.	Model Designation	Lamp Watts	Lens Dia. Inches	Price Each
1174	Super-Klieg	2000	12	$269.50
1178	Dyna-Beam	3000	12	462.00
1179*	Dyna-Beam	3000	12	625.00

*No. 1178 Dyna-Beam Klieglight additionally equipped with five-color boomerang.

KLIEGL FLOODLIGHTS

STAGE UNITS

Used from side wings or from overhead on the stage. Provided with slide grooves on front for color frames with gelatine mediums. For P.S. lamps.

STANDING TYPES

No. 1N—Open-box reflector sprayed white, grooves for color frame; 500/1500 watt; pedestal floor stand, 25 ft. cable.....$39.60

No. 2N—Parabolic boxed Alzak aluminum reflector; grooves for color frame; 500/1500 watt; pedestal floor stand, 25 ft. cable.....$46.20

HANGING TYPES

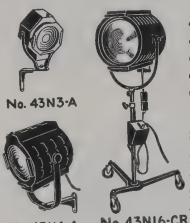
No. 540 — Open-box reflector sprayed white; 500 watt; asbestos leads; chain hangers; grooves for color frame $18.70

No. 546 — Parabolic boxed Alzak aluminum reflector; 500 watt; asbestos leads; grooves for color frames; pipe clamp hanger.....$28.60

KLIEGL SPOTLIGHTS

FRESNEL LENS TYPES

Equipped with refracting prismatic Fresnel type lens — producing a soft-edge high intensity light beam. Accommodate standard concentrated filament incandescent lamps. Adjustable lamp carriage for focusing. Alzak aluminum reflectors. Slide grooves for color frames.



Cat. No.	Watts	Lens Dia., Inches	Price Each
43N3-A	100	3	$13.20
43N6-A	500	6	21.00
43N8-CR	1000	8	90.30
43N12-CR	2000	12	128.70
43N16-CR	5000	16	218.50

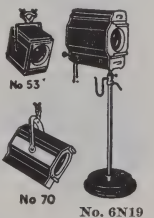
Nos. 43N3 and 43N6 normally supplied with extension cord, attachment plug and wall bracket, but may be had with suspension mounting, or table base at same price; or No. 43N6 on floor stand 25 ft. cord and switch at $10.50 additional cost.

Nos. 43N8-CR–43N16-CR are supplied mounted on telescopic floor stand with rubber tired casters; furnished with 25 ft. cable and switch.

Suffix to Cat. No.: "E" pipe clamp, "A" wall bracket, "B" table base; "C" floor stand; "CR" roller stand.

PLANO CONVEX LENS TYPES

Standard general utility spotlights with the usual clear-glass condensing lens, designed for use with concentrated filament lamps. Sliding lamp carriage adjustable for focusing. Any type of mounting desired—pipe clamp, wall bracket, table base, or telescopic floor stand.



No. 53E — 250/400 watt, 4½" lens, short range (15-ft.), medium-screw-base repectacle, pipe clamp*. Price, ...$16.50

No. 5310E — 250/400 watt, 4½" lens, medium range (25-ft.), medium-screw-base receptacle, pip clamp*. Price, ...$19.80

No. 70-E—1000 w., 6" lens, average range (50 ft.), mogul prefocus receptacle, Alzak aluminum reflector, pipe clamp*. Price, $45.10

No. 6N19—2000 watt, 6" lens, average range (50 ft.), mogul prefocus receptacle, Alzak aluminum reflector, floor stand. Price, ...$88.00

No. 8N20—20000 watt, 8" lens, long range (100 ft.), mogul prefocus receptacle, Alzak aluminum reflector, floor stand. Price, ...$115.50

*Wall bracket or table base same price. Floor stands at slight additional cost. Floor stand models furnished with 25 ft. cable, otherwise short leads supplied.

ARC-LAMP TYPES

Standard lights, with plano-convex condensing lens. Hand-feed arc spots. Provided with external focusing and arc feed control. Hand grip for directional movement. Arc ballast resistance on stand. Enclosed line switch. 25 ft. of cable.

Cat. No.	Amps.	Lens Diam. Inches	Price Each
10	50	6	$184.00
11	70	6	224.25
18	70	8	241.50

POWERSTAT LIGHT DIMMING EQUIPMENT

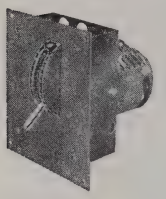
Non-Interlocking Models

A POWERSTAT Dimmer is an autotransformer with a movable brush-contact riding on a bared portion of the transformer winding. It provides smooth, flickerless control; gives economical, efficient and cool operation; is easy to install and maintain. Non-interlocking units are available for manual and motor-driven operation.

MANUALLY-OPERATED UNITS

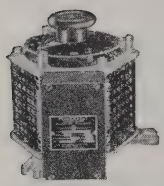
Non-interlocking POWERSTAT Dimmers are offered in a variety of circuit arrangements in capacities from 1,000 to 30,000 watts. Three basic series constitute the line of non-interlocking POWERSTAT Dimmers: the D1000, the D2000 and the D5000.

D1000 SERIES



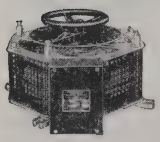
These are the smallest in rating and physical size. They are ideal for small installations where single circuit control is desired. Find wide use in controlling foot and single room lights. Type D1000H is a panel assembly with vertically operated lever and type D1000R is a knob controlled unit.

D2000 SERIES



The D2000 Series is available as a single unit to handle loads up to 2,000 watts, the D2000-2E for loads up to 4,000 watts, the D2000-3E for loads up to 6,000 watts. They are designed for 2 or 3 wire, single phase or 4 wire three phase service. They are knob controlled; can be back-of-panel, bench or wall mounted.

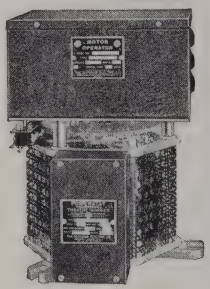
D5000 SERIES



Single units handle loads up to 5,000 watts. Ganged assemblies hand'e loads up to 30,000 watts. Single units can be bench, wall or back-of-panel mounted. Ganged assemblies are floor mounted. Designed for 3 wire, single phase and 4 wire, three phase service.

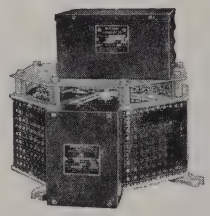
MOTOR-DRIVEN UNITS

POWERSTAT Dimmers of the D2000 and D5000 Series are available with motor-drives. Motor-drive offers effortless, "finger-tip" control of large amounts of power. By means of a raise-lower station or miniature positioner control any lamp load can be dimmed or brightened from black-out to full-on. Motor-drive control also permits remote control with the dimmer installed in out-of-the-way space and the control station placed at the location most convenient for control.



D2000 SERIES

These motor-driven units are offered in the same ratings as the manually-operated models. They can be mounted on any plane surface. Standard available speeds are 6, 14, 19 and 45 seconds for full range travel from black-out to full-on.



D5000 SERIES

These units are also available with motor-drive in the same capacities as manually-operated assemblies. Standard speeds of travel are listed for each type in the chart below.

For specific data on dimensions of Motor-driven POWERSTAT Dimmers, request Bulletin 749.

RATINGS OF STANDARD NON-INTERLOCKING POWERSTAT DIMMERS

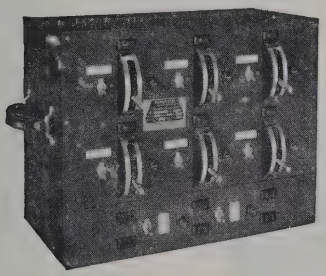
Input Volts	No. Circuits	Watts per Circuit	Total Watts Output	Frequency	Type	Approx. Dimensions (Inches) Height	Width	Depth	Approx. Weight (Lbs.) Net Manual	Net Motor	Shipping Manual	Shipping Motor	Standard Motor Speeds (Seconds)
2-Wire, 1 Phase													
120	1	1000	1000	50/60	**D1000R**	5 5/8	5	4 7/8	9	.....	10	.....	.....
120	1	1000	1000	50/60	**D1000H**	8 1/2	7	7 7/8	13	.....	18	.....	.....
120	1	2000	2000	50/60	**D2000**	8 5/8	8	9 1/2	22 1/2	33 1/2	26 1/2	41 1/2	6, 14, 19, 45
120	2	2000	4000	50/60	**D2000-2E**	14 1/8	8	9 1/2	47 1/2	58 1/2	54 1/2	69 1/2	6, 14, 19, 45
120	3	2000	6000	50/60	**D2000-3E**	21 1/4	8	9 1/2	70 1/2	81 1/2	79 1/2	94 1/2	6, 14, 19, 45
120	1	5000	5000	50/60	**D5000**	9 1/4	13 7/8	16 3/8	75 3/4	89 3/4	82 3/4	102 3/4	6, 14, 19, 45
120	2	5000	10000	50/60	**D5000-2E**	20 1/2	13 7/8	16 3/8	148 1/2	162 1/2	168 1/2	188 1/2	6, 14, 19, 45
120	1	10000	10000	50/60	**D5000-2P**	20 1/2	16 1/8	16 3/8	151	165	171	191	6, 14, 19, 45
120	3	5000	15000	50/60	**D5000-3E**	28 3/8	13 7/8	16 3/8	221 1/4	235 1/4	291 1/4	311 1/4	6, 14, 19, 45
120	1	15000	15000	50/60	**D5000-3P**	28 3/8	16 1/8	16 3/8	226	240	296	316	6, 14, 19, 45
120	4	5000	20000	50/60	**D5000-4E**	36 1/4	13 7/8	16 3/8	328	342	418	438	14, 19, 45
120	1	20000	20000	50/60	**D5000-4P**	36 1/4	16 1/8	16 3/8	331	345	421	441	14, 19, 45
120	2	10000	20000	50/60	**D5000-2E2P**	36 1/4	13 7/8	16 3/8	328	342	418	438	14, 19, 45
120	6	5000	30000	50/60	**D5000-6E**	52	15	15 1/2	501 1/2	515 1/2	601 1/2	621 1/2	14, 19, 45
120	1	30000	30000	50/60	**D5000-6P**	52	16 1/2	16 1/2	501	515	601	621	14, 19, 45
120	3	10000	30000	50/60	**D5000-3E2P**	52	16 1/2	16 1/2	501	515	601	621	14, 19, 45
120	2	15000	30000	50/60	**D5000-2E3P**	52	16 1/2	16 1/2	501	515	601	621	14, 19, 45
3-Wire, 1 Phase													
240/120	2	2000	4000	50/60	**D2000-2E**	14 1/8	8	9 1/2	47 1/2	58 1/2	54 1/2	69 1/2	6, 14, 19, 45
240/120	2	5000	10000	50/60	**D5000-2E**	20 1/2	13 7/8	16 3/8	148 1/2	162 1/2	168 1/2	188 1/2	6, 14, 19, 45
240/120	4	5000	20000	50/60	**D5000-4E**	36 1/4	13 7/8	16 3/8	328	342	418	438	14, 19, 45
240/120	2	10000	20000	50/60	**D5000-2E2P**	36 1/4	13 7/8	16 3/8	331	345	421	441	14, 19, 45
240/120	2	15000	30000	50/60	**D5000-2E3P**	52	16 1/2	16 1/2	501	515	601	621	14, 19, 45
240/120	6	5000	30000	50/60	**D5000-6E**	52	15	15 1/2	501 1/2	515 1/2	601 1/2	621 1/2	14, 19, 45
4-Wire, 3 Phase													
208/120	3	2000	6000	50/60	**D2000-3E**	21 1/4	8	9 1/2	70 1/2	81 1/2	79 1/2	94 1/2	6, 14, 19, 45
208/120	3	5000	15000	50/60	**D5000-3E**	28 3/8	13 7/8	16 3/8	221 1/4	235 1/4	291 1/4	311 1/4	6, 14, 19, 45
208/120	6	5000	30000	50/60	**D5000-6E**	52	15	15 1/4	501 1/2	515 1/2	601 1/2	621 1/2	14, 19, 45
208/120	3	10000	30000	50/60	**D5000-3E2P**	52	16 1/2	16 1/2	501	515	601	621	14, 19, 45

POWERSTAT LIGHT DIMMING EQUIPMENT

Packaged Models

Many school, church, community, amateur and small theatre groups need light dimming equipment for presenting stage presentations but lack the necessary funds to purchase expensive, large switchboard installations. POWERSTAT "PACKAGED" Dimmers fill the need for low cost lighting control. They provide, in one compact package, all the facilities for presenting a professional stage production.

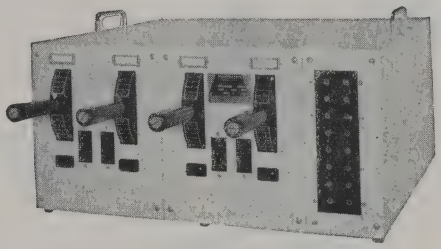
D1000 SERIES



DBR6-1000

The D1000 series of POWERSTAT "PACKAGED" Dimmers consist of six non-interlocking 1,000 watt units mounted in a black wrinkle finished cabinet. Each dimmer is controlled by a vertically operated, finger-length control lever. The hand lever has its own graduated drum markings for programing. Each circuit has its own "on-off" switch, fuse protection, pilot light and card holder for circuit identification. Operation is from a 240/120 volt, 3 wire, 1 phase, 50/60 cycle source.

D2000 SERIES



DBP4-2000

The D2000 series of POWERSTAT "PACKAGED" Dimmers are offered in 3, 4 and 6 2,000 watt unit assemblies with a variety of output connection arrangements. They are tabulated in the chart below. Each of the dimmers is controlled by regulation length hand levers attached to drums. The drums are graduated in markings from 1 to 10. Each individual dimmer handle can be interlocked to a common shaft. Most mastering applications only require operating one of the dimmer handles as a master. For special requirements a separate master handle is available. All models can be operated from a 2 wire, 1 phase 120 volts, 50/60 cycle; a 3 wire, 1 phase, 240/120 volts. 50/60 cycle; or a 4 wire, 3 phase, 208 volts, 50/60 cycle source.

STANDARD POWERSTAT "PACKAGED" DIMMER RATINGS

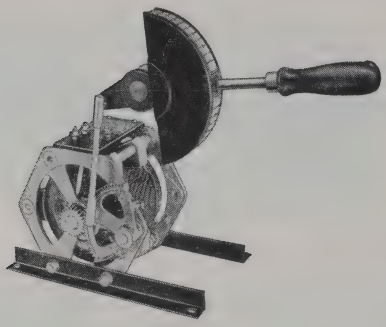
Type	No. of Circuits	Watts Per Circuit	Total Watts Output	Approx. Dimensions (Inches) Height	Width	Depth	Weight Lbs. Net	Shipping	Type of Output Connection
DBR6-1000	6	1000	6000	14½	18⅞	9⅜	70	100	Parallel-Blade Receptacle
DBP6-1000	6	1000	6000	14½	18⅞	9⅜	70	100	Pin-Jack
DBS3-2000	3	2000	6000	13¾	25	28⅞	145	215	Terminal Board
DBR3-2000	3	2000	6000	13¾	25	28⅞	145	215	Parallel-Blade Receptacle
DBT3-2000	3	2000	6000	13¾	25	28⅞	145	215	Twist-Lock Receptacle
DBP3-2000	3	2000	6000	13¾	25	28⅞	145	215	Pin-Jack
DBS4-2000	4	2000	8000	13¾	25	28⅞	170	242	Terminal Board
DBR4-2000	4	2000	8000	13¾	25	28⅞	170	242	Parallel-Blade Receptacle
DBT4-2000	4	2000	8000	13¾	25	28⅞	170	242	Twist-Lock Receptacle
DBP4-2000	4	2000	8000	13¾	25	28⅞	170	242	Pin-Jack
DBS6-2000	6	2000	12000	13¾	40	28⅞	220	295	Terminal Board
DBR6-2000	6	2000	12000	13¾	40	28⅞	220	295	Parallel-Blade Receptacle
DBT6-2000	6	2000	12000	13¾	40	28⅞	220	295	Twist-Lock Receptacle
DBP6-2000	6	2000	12000	13¾	40	28⅞	220	295	Pin-Jack

POWERSTAT LIGHT DIMMING EQUIPMENT

Interlocking Models

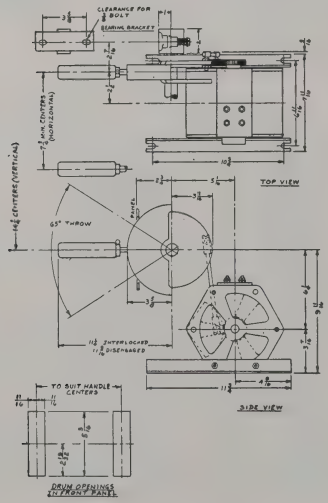
Interlocking POWERSTAT Dimmers are available for use as switchboard components. They are offered in 2000 and 5500 watt ratings in "H" types (single unmounted units) and in "J" types (units mounted in angle iron frames). These interlocking dimmers are toroidal form autotransformers with a strong, durable, movable brush contact riding on a bared portion of the transformer winding. They provide smooth, flickerless control; efficient, cool operation; simple, easy installation; black-out dimming on any load up to maximum rating. Both types are designed for operation on 120 volt, 50/60 cycles, single phase a-c power lines. Interlocking POWERSTAT Dimmers are generally employed where manual control of a number of circuits is required. All dimmers can be mastered and grand mastered.

D2000 SERIES

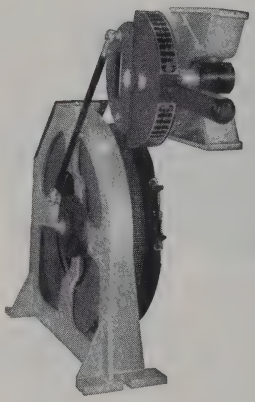


The D2000H interlocking POWERSTAT Dimmer is illustrated above and its outline dimensions are shown below. This unit is also available as "J" types in an angle iron frame. The "J" types can be supplied to control up to ten circuits each side of the master. They can be ganged to satisfy almost any requirement. When ordering, specify total wattage, number of circuits to be controlled, source of power and mastering arrangements required. D2000H units are rated 120 volts, 50/60 cycles, single phase, 2000 watts.

OUTLINE DIMENSIONS OF D2000H



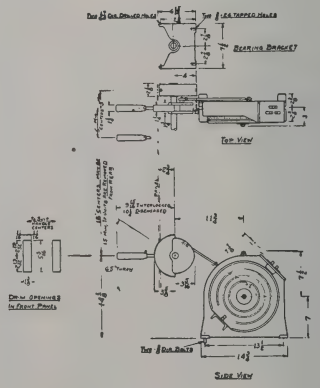
D5500 SERIES



The D5500H interlocking POWERSTAT Dimmer is furnished as illustrated. Its outline dimensions are shown below. It is rated 120 volts, 50/60 cycles, single phase, 5500 watts. It can be mounted on a minimum center to center distance of 5 inches from left to right and 15 inches from top to bottom.

When furnished as form "J" it is mounted on left to right centers of 5 inches and top to bottom centers of 18 inches. They can be ganged up to four rows with master and grand master to meet any dimming requirement. When ordering, specify power source, total wattage and number of circuits to be controlled together with mastering desired.

OUTLINE DIMENSIONS OF D5500H



RECO SIGN FLASHERS
BRUSH TYPE

For electric signs, window lighting, timing and traffic control.

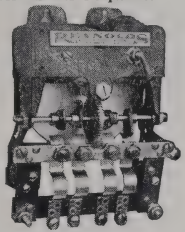
Adjustable, flexible. Flash on and off, color changing, spelling or building up or down, running borders, etc., also for signaling work. 110 volts, 60 cycles. Other current extra. Specify.

Cat. No.	No. of Brushes	Size Inches	Wt. Lbs. Boxed	Price Each With Motor	Price Each Steel Cabinet
		On-Off Type—Capacity per Brush 400 Watts			
0-1-5	1	18x13x11	50	$48.00	$13.50
		On-Off Type—Capacity per Brush 800 Watts			
0-1-15	1	18x13x11	50	51.00	13.50
		Speed Type—Capacity per Brush 200 Watts			
S-4-4	4	18x13x11	55	60.00	13.50
S-8-4	8	25x13x11	67	78.00	18.00
		Speed Type—Capacity per Brush 400 Watts			
S-4-8	4	21x13x11	68	72.00	15.00
S-8-8	8	32x13x11	80	102.00	18.00

Additional brushes: No. 0-1-5, **$4.50** each; No. 0-1-15, **$7.50** each.

Prices on other types of flashers on request.

SILVER CONTACT TYPE



Flashes on and off, alternate, running borders, etc. FDBS-4 type illustrated.

For 110 volts, 60 cycles, A.C. only.

Series "F" capacity 660 watts or V.A. (6 amps.) per circuit. When ordering, specify flashing speed and action required.

Single-circuit types for on and off; 2-circuit for alternate sides, etc.; 2-, 3- and 4-circuit for color changing, speller, and speed types.

Cat. No.	No. of Circuits	Size, In. Flasher	Shpg. Wt. Lbs.	Price Each With Cab.	Price Each Less Cab.
FDBO-1	1	4x5x4	8	$18.00	$15.00
FDBO-2	2	4x5x4	10	21.00	18.00
FDBO-3	3	6x8x3¼	10	27.00	24.00
FDBS-4	4	6x8x3¼	10	30.00	27.00

Series L, capacity 1650 watts or V.A. (15 amps.) per circuit. Add **$1.50** to above prices.

SINGLE CIRCUIT ON AND OFF TYPE

Standard speed, 12-16 F.P.M. Also 6-8 F.P.M. if specified for 110-volt, 50 or 60 cycles, A.C. Cabinet, 4½x4½x5 inches. Shipping weight, 8 lbs.

Cat. No.	Capacity	With Cab.	Less Cab.
FDSBO-1	660W. or V.A.	$18.00	$15.00
LDSBO-1	1650W. or V.A.	19.50	16.50

RECO NEONIMATER

Flashes secondary side of Neon Transformer. Handles 2 to 8 circuits, flashing wide range of effects. Capacity, 7500-15000 volts, 30 M.A. For 110-volt, 50-60 cycle, A.C.

Cat. No.	Speed R.P.M.	Size Inches	Price Each
D6	150-300	5x9¼x7	$24.00
G6	*25-60	5x9¼x7	27.00
D8	150-300	5x9¼x7	28.50
G8	*25-60	5x9¼x7	30.00

Shipping weight, 10 lbs.

*Also 6-8 or 12-16 R.P.M., if specified.

RECO SKEDOODLE FLASHERS
(Phelps Patent)

SKEDOODLE RECEPTACLE

Standard porcelain receptacle with built-in flasher. Standard timing, 15-20 F.P.M.

Capacity 25-100W., 110V. A.C.

Price, No. **4220**.....each **$0.45**

SKEDOODLE PLUG TYPE FLASHER

Fits any standard socket. Regular timing, 15-20 flashes per minute. Capacity, 25-100 watts, 110 volts, A.C.

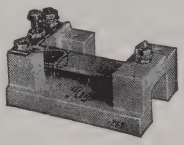
Cat. No.	Description	Price Each
4230	Plug Type Flasher	$0.30

SKEDOODLE ROUND TYPE

Small, compact flasher. Size, 1⅝x¾ inches. Porcelain base. Standard timing, 15-20 F.P.M., 110V. A.C.

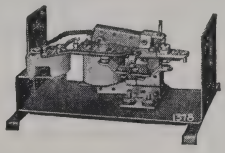
Cat. No.	Type	Watts	Price Each
4172	Series	25–100	$0.45
4174	Multiple	75	.60

SKEDOODLE MIDGET TYPE



Mechanism mounted in porcelain frame. Adjusting screws for varying "on" and "off" periods. Size 2⅜x1⅜x 1⅝ inches. Standard timing 12-15 F.P.M., 110V. A.C.

Series Type Cat. No.	Capacity	Price	Multiple Type Cat. No.	Capacity	Price
S4166	25-100W.	$.75	M4170	75W. 63V.A.	$.90
SC4167	100-200W.	1.20	M4169	110W. 90V.A.	1.35



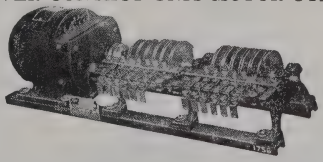
THERMATIC TYPE

For 110V. A.C. Only

A motorless flasher for flashing signs or displays, on and off or alternate. Speed, 15 to 20 F.P.M.

Cat. No.	Watts Per Clr.	Circuits	With Cabinet	Less Cabinet
BTO–1	660	1—On and Off	$7.65	$5.65
BTO–2	660	2—Alternate	7.65	5.65
BTO–2A	660	2—On and Off	9.65	7.65
BTO–4	660	4—Two Alternate	15.65	13.65

SILVER CONTACT UNIT MOTOR TYPE



For 110V., 60-cycle, A.C. Large 3-inch cams provide accurate timing and ease of adjustment. Unit motor has gearing enclosed in end frame. Furnished for practically any number of circuits or timing. Capacity, 1650 watts or V.A. per circuit. On and Off—Color Changing—Speller Type (Cycle 4 or 7 R.P.M.).

Cat. No.	No. of Circuits	Capacity Size	Shpg. Wt. Lbs.	With Cab.	Less Cab.
LUBSP-5	5	18x8x7	53	$81.00	$67.50
		Speed Type—36 or 46 R.P.M. with 5 Lobe Cams			
LUBS -6	6	18x8x7	53	78.00	66.00

Additional circuits, **$6.00** each. For 3-wire service add **$1.50**. For 220-volt, add **$1.50**.

DAZOR FLOATING LAMPS

For Fluorescent Lighting

The Dazor Floating Lamp may be raised, lowered, pushed, pulled, turned, tilted, swung completely around at a mere touch — and it "stays put" without any further adjustment or locking.

The Dazor Floating Lamp provides a choice of five bases, suitable for virtually any application on machine, bench, wall, drawing board, desk or floor. These standard models are available with either fluorescent or incandescent lighting and for all ordinary lighting currents. All are approved by Underwriters' Laboratories, Inc. Standard finish, brown baked enamel over bonderizing. Gray, green, white, brown wrinkle, black wrinkle or ivory tan available on special order.

UNIVERSAL MODEL

For clamping or screwing to any surface — horizontal, vertical or sloping. Dual-clamp fitting is removable; screws furnished with each unit. Auxiliary installed in housing beneath spring mechanism.

No. UL-1134-16, 110-volt, 60-cycle. For 1-T8-15W Fluorescent tube.

No. UL-2134-16, 110-volt, 60-cycle. For 2-T8-15W Fluorescent tubes.

Numbers with Prefix "P" indicate High Power Factor.

Above numbers specify 34-inch arm extension. Substitute "24" for "34" to specify 24-inch arm.

See following page for specifications and price list.

Fluorescent Universal Model

BRACKET MODEL

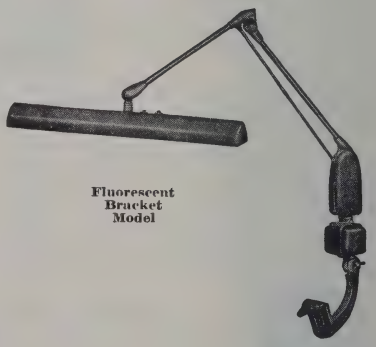
A gooseneck bracket forms the base of this Dazor model. Fastens to underside of drawing board, leaving upper edge of board clear for T-square. Board cover rolls into gooseneck. Auxiliary installed in housing underneath spring mechanism.

No. UL-2434-16, 110-volt, 60-cycle. For 2-T8-15W Fluorescent tubes.

Numbers with Prefix "P" indicate High Power Factor.

The 34-inch extension Fluorescent Lamp is so generally preferred in this model that 24-inch extension is not listed.

See following page for specifications and price list.



Fluorescent Bracket Model

DESK MODEL

The weighted base does not require fastening down, permitting it to be placed anywhere on a flat-top desk, table or other horizontal surface; can be moved as desired. Auxiliary installed in the base.

No. UL-2324-16, 110-volt, 60-cycle. For 2-T8-15W Fluorescent tubes.

Numbers with Prefix "P" indicate High Power Factor.

The 24-inch arm extension Fluorescent Lamp is so generally preferred in this model that 34-inch arm extension is not listed.

See following page for specifications and price list.

Fluorescent Desk Model

Note: All models may also be supplied for use on 110-volt, 50-cycle, or 220-volt, 50- or 60-cycle A.C., or 110- or 220-volt, D.C., at slightly different prices. Prices do not include tubes.

DAZOR FLOATING LAMPS

For Fluorescent Lighting

Pedestal Model—A heavy iron base, 12 inches in diameter, gives stability to this portable, floor-type Dazor. Pedestal measures 39 inches from floor to arm hinge at top of pedestal. Especially adapted to offices, doctors' quarters and homes. Auxiliary installed in base of the Fluorescent models.

Fluorescent Models: For 110-volt, 60-cycle, A.C., are No. UL-1234-16 single tube; No. UL-2234-16 two tubes. Prefix "P" indicates High Power Factor.

Business Machine Model — The bracket of this Dazor clamps to round or square leg of any business machine. Clamp is felt-lined to prevent marring and to insure firm grip.

Specially-Designed Units—A 6-watt Floating Arm Universal model and a 6-watt Rigid Arm Universal model are available for use where there is a need for efficient lighting in close quarters.

If you have a lighting problem on a particular machine or an unusual lighting application, we will be glad to have Dazor Engineers cooperate in solving it.

Dazor Floating Magnifiers—Two seeing aids combined in a compact movable head: (1) **Magnification** which clearly reveals the tiniest work details and (2) supplementary **fluorescent lighting** concentrated at the point of work. Comes in the Universal, Pedestal and Desk models with same baked enamel finishes as lamps.

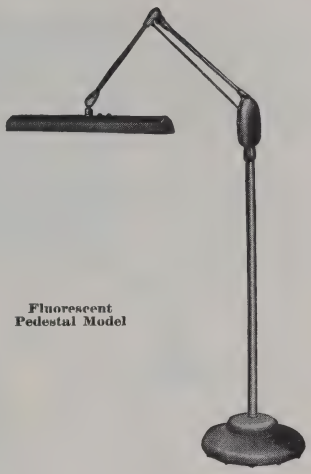
Universal model for clamping or screwing to any surface.
No. UL-M-209, 110V. 60 C. for 3-T5-6W tubes.

Pedestal model — a portable, floor unit.
No. UL-M-210, 110V. 60 C. for 3-T5-6W tubes.

Desk Model — UL-M-270, 110V. 60 C. for 3-T5-6W tubes.

Condensed Price List—Following prices are on lamps equipped for use on 110 volts 60 cycles, A.C.

Lamp catalog numbers listed all specify 34-inch arm extensions, except the Desk Model, which is listed only in 24-inch extension. For 24-inch arm extension in Pedestal, Business Machine and Universal models, substitute "24" for "34" in catalog numbers. Bracket model is listed in 34-inch only. Prices are the same. In addition to models catalogued here, the following are available on special order: fixtures for one or more 4-, 6-, 8-, 14-, 15- and 20-watt fluorescent tubes and 30-, 40- and 60-watt lumiline tubes.



Fluorescent Pedestal Model

Fluorescent Business Machine Model

Universal Model Magnifier with Fluorescent Lighting

Fluorescent Models — 110-Volt 60-Cycle

Model	Cat. No.	No. & Size of Tubes	Power Factor	List Price Western	List Price Eastern
Universal	UL-1134-16	1-T8-15W	Low	$19.75	$18.75
	UL-P-1134-16	1-T8-15W	High	22.50	21.50
	UL-2134-16	2-T8-15W	Low	22.75	21.75
	UL-P-2134-16	2-T8-15W	High	25.75	24.75
Bracket	UL-2434-16	2-T8-15W	Low	22.75	21.75
	UL-P-2434-16	2-T8-15W	High	25.75	24.75
Desk	UL-2324-16	2-T8-15W	Low	31.00	29.00
	UL-P-2324-16	2-T8-15W	High	33.75	31.75
Pedestal	UL-2234-16	2-T8-15W	Low	36.00	34.00
	UL-P-2234-16	2-T8-15W	High	39.25	37.25
Business Machine	UL-2634-16	2-T8-15W	Low	29.75	28.75
	UL-P-2634-16	2-T8-15W	High	32.50	31.50

All models may also be supplied for use on 110-volt, 50-cycle or 220-volt, 50- or 60-cycle A.C. or 110- or 220-volt, D.C., at slightly different prices.

Magnifiers

Universal	UL-M-209	3-T5-6W	Low	$34.50	$33.50
Pedestal	UL-M-210	3-T5-6W	Low	48.25	46.25
Desk	UL-M-270	3-T5-6W	Low	43.75	41.75

Models also available for use on 110V 50C and 110V D.C. at slightly higher price.

Prices do not include tubes.

DAZOR FLOATING INCANDESCENT LAMPS

Regular Incandescent Models

Regular incandescents are available with a choice of two reflectors: R1 reflector (5½ inches diameter) is recommended for 40- to 60-watt bulbs; R2 reflector (6½ inches diameter) for 40- to 75-watt bulbs, for greater spread of light.

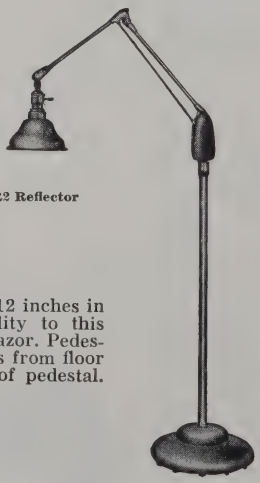
REGULAR INCANDESCENT UNIVERSAL MODEL

R1 Reflector

The Universal model may be clamped or screwed to any surface—horizontal, vertical or sloping. Dual-clamp fitting is removable. Screws furnished.

Model No.	Arm Extension	Bulb Recommended	List Price Western	List Price Eastern
UL-3124-R1	24″	40-60W	$14.75	$13.50
UL-3134-R1	34″	40-60W	14.75	13.50
UL-3124-R2	24″	40-75W	15.00	13.75
UL-3134-R2	34″	40-75W	15.00	13.75

REGULAR INCANDESCENT PEDESTAL MODEL



R2 Reflector

A heavy iron base, 12 inches in diameter, gives stability to this portable, floor-type Dazor. Pedestal measures 39 inches from floor to arm hinge at top of pedestal.

Model No.	Arm Extension	Bulb Recommended	List Price Western	List Price Eastern
UL-3224-R1	24″	40-60W	$28.50	$26.25
UL-3234-R1	34″	40-60W	28.50	26.25
UL-3224-R2	24″	40-75W	28.75	26.50
UL-3234-R2	34″	40-75W	28.75	26.50

Bulbs not furnished.

DAZOR FLOATING INCANDESCENT LAMPS

Air-Cooled Incandescent Models

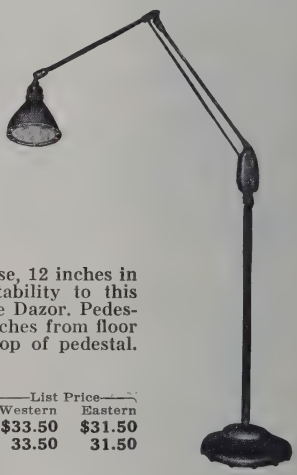
Air flowing between the inner reflector and the outer housing carries off heat. The shade remains comfortable to handle and there is no danger of accidental burns. 60-watt bulb is recommended.

AIR-COOLED INCANDESCENT UNIVERSAL MODEL

This Dazor may be clamped or screwed to any surface — horizontal, vertical or sloping. Dual - clamp fitting is removable. Screws furnished.

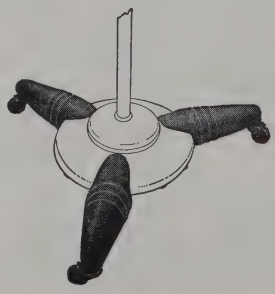
Model No.	Arm Extension	Bulb Recommended	List Price Western	List Price Eastern
UL-IL-602	24″	40-60W	$19.75	$18.75
UL-IL-603	34″	40-60W	19.75	18.75

AIR-COOLED INCANDESCENT PEDESTAL MODEL



A heavy iron base, 12 inches in diameter, gives stability to this portable, floor-type Dazor. Pedestal measures 39 inches from floor to arm hinge at top of pedestal.

Model No.	Arm Extension	List Price Western	List Price Eastern
UL-IL-604	24″	$33.50	$31.50
UL-IL-605	34″	33.50	31.50



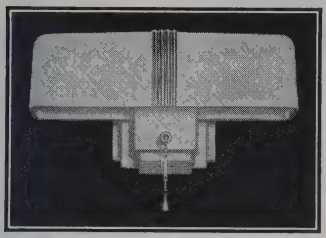
CASTER ATTACHMENTS FOR PEDESTAL MODEL

This accessory attaches to the base of any Dazor Pedestal model and permits the fixture to be easily rolled wherever desired. Priced and packaged three to a set.

Model No.	List Price Western	List Price Eastern
X-542	$11.50	$10.50

ALABAX LIGHTING FIXTURES

2-LIGHT ALABAX FIXTURE

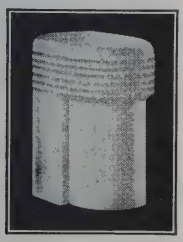


Pull fixtures use "T" rated switch. Shade easily removed for cleaning. Width, 10¾ inches; height, 5½ inches; extends out, 5¼ inches.

Holds two 75-watt lamps. Directs light where needed most. Standard package, 12 fixtures.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each
AL-2850	Pull	With	530	$8.91
AL-2851	Pull	No	508	8.63
AL-2852	Keyless	With	508	8.28
AL-2853	Keyless	No	490	8.00
AL-2854	Glass only	----------	300	4.75

STREAMLINED MODERN BRACKETS



SIDE WALL BRACKET

Streamlined, modern brackets for use in bathroom. Will take up to 60-watt lamps. For application to 3¼-inch or switch boxes.

Dimensions: Width, 3½ inches; height, 6¼ inches. Shipping weight approximately 330 lbs. per 100.

Cat. No.	Type	Outlet	Price Each White	Price Each Black	Price Each Ivory
AL-3129	Keyless ----------	With	$5.68	-------	-------
AL-3130	Keyless ----------	No	5.54	-------	-------
AL-3131	Push Switch ----	With	6.64	-------	-------
AL-3134	Keyless ----------	No	-------	$6.17	-------
AL-3137	Keyless ----------	No	-------	-------	$5.93
AL-3133	Glass tube only---------		1.91	-------	-------

SIDE WALL BRACKET

An attractive general purpose bracket to mount almost anywhere. Complete with fittings to apply to 3¼-inch or 4-inch boxes.

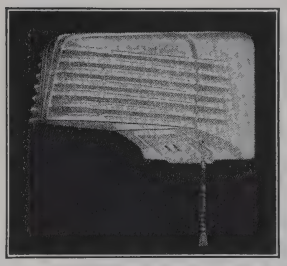
Supplied in white or ivory glazes.

Length back, 6⅜ inches; width back, 4 inches. Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-3100	Pull	With	152	$3.21	$3.71
AL-3101	Pull	No	141	2.90	3.40
AL-3102	Keyless	With	152	2.90	3.40
AL-3103	Keyless	No	141	2.61	3.11

ALABAX LIGHTING FIXTURES

STREAMLINE WALL BRACKET



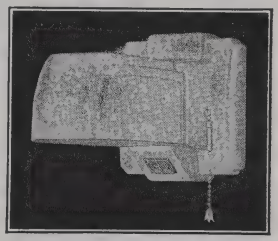
Streamlined beauty — glistening porcelain brackets — white opal 60 watt glass shade. Complete with P&S Alabax swivel strap. To facilitate hanging; with chain insulator and snub on the pull socket, with pure white opal glass, with Underwriters' label attached. Base of fixture — 4⅝ by 4⅝ inches; extends out, 7⅝ inches.

Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2390	Pull	With	252	$4.42	$4.79
AL-2391	Pull	No	252	4.13	4.51
AL-2392	Keyless	With	252	4.13	4.51
AL-2393	Keyless	No	252	3.84	4.21
AL-2394	Glass only ------		80	1.68	-------

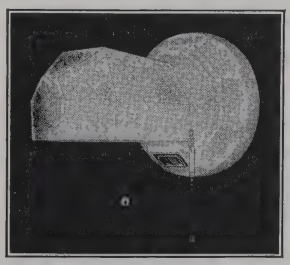
SIDE WALL BRACKET

A pleasing design and unusually easy to install on switch boxes, 3¼ or 4-inch outlet boxes. Base, 5x4½ inches. Complete with glass. Standard package, 12.



Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2380	Pull	With	328	$4.42	$4.79
AL-2381	Pull	No	328	4.13	4.51
AL-2382	Keyless	With	328	4.13	4.51
AL-2383	Keyless	No	328	3.84	4.21
AL-2384	Glass only ------		82	1.68	-------

SIDE WALL BRACKET



An attractive general purpose bracket designed to mount almost anywhere, but unusually easy to install on 3¼ and 4-inch outlet boxes.

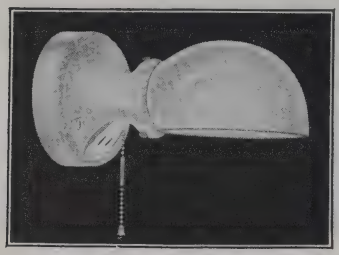
Supplied in white or ivory glazes. Diameter of fixture, 5 inches. Complete with glass.

Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-9234	Pull	With	320	$4.42	$4.79
AL-9235	Pull	No	300	4.13	4.51
AL-9236	Keyless	With	320	4.13	4.51
AL-9237	Keyless	No	300	3.84	4.21
AL-3074	Glass only ------		80	1.80	-------

ALABAX LIGHTING FIXTURES

SIDE WALL BRACKET



For 3¼ or 4-inch boxes. Diameter of fixture, 4¾ inches. Internal snub in socket to protect switching mechanism, chain insulators are detachable. Supplied in white or ivory glazes. With glass as illustrated. Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2100 ND	Pull	With	280	$3.97	$4.35
AL-2101 ND	Keyless	With	280	3.69	4.06
AL-2102 ND	Pull	No	276	3.69	4.06
AL-2103 ND	Keyless	No	270	3.40	3.77
AL-2209	Glass only	....	80	1.62	.....

SIDE WALL BRACKET

With complete fittings to attach to box. For 3¼-inch or 4-inch boxes. Supplied in white or ivory glazes. Diameter of fixture, 5⅝ inches. Complete with glass. Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-990-G	Pull	With	330	$4.42	$4.92
AL-980-G	Keyless	With	330	4.13	4.63
AL-982-G	Pull	No	310	4.13	4.63
AL-984-G	Keyless	No	310	3.87	4.36
AL-2209	Glass only	.....	80	1.62	.....

WALL BRACKET WITH NIGHT LIGHT

These fixtures are furnished with pull socket for controlling the main light. Night light is controlled by pull switch or canopy switch as listed.

Width, 5 inches — length, 6 inches.

White or ivory glaze.

Standard package, 12.

Cat. No.	Shade	Outlets	Price Each White	Price Each Ivory
	With Pull Switch Controlling Night Light			
AL-2282	Opal Glass	Two	$10.05	$10.92
	With Canopy Switch Controlling Night Light			
AL-2297	Opal Glass	Two	9.03	9.90

ALABAX LIGHTING FIXTURES

SIDE WALL BRACKET

A bracket to cover almost any box used on side walls. For 3¼-inch or 4-inch boxes. Supplied in white or ivory glazes.

Length, 6¾ inches; width, 4¾ inches; extends out, 3¼ inches.

Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2108	Pull	With	165	$3.72	$4.21
AL-2109	Pull	No	150	3.40	3.90
AL-2110	Keyless	With	157	3.40	3.90
AL-2111	Keyless	No	134	3.11	3.61

SIDE WALL BRACKET

These keyless socket fixtures are supplied with switches and outlet in varying positions, conforming to requirements, can be supplied with 3-way switches to order; can be mounted only on switch boxes or covers with switch box spacing.

Switch has "T" rating. Width 4¾ inches; overall height 7 inches; extends out, 3⅝ inches. Standard package, 12.

Cat. No.	Description	Price Each White	Price Each Ivory
AL-2108-1	Keyless, brown S.P. switch on left, brown outlet....	$4.81	$5.31
AL-2108-2	Keyless, brown S.P. switch on right, brown outlet..	4.81	5.31
AL-2108-5	Keyless, ivory S.P. switch on left, ivory outlet.....	4.84	5.33
AL-2108-6	Keyless, ivory S.P. switch on right, ivory outlet....	4.84	5.33
AL-2108-14	Keyless, brown 3 way switch on right, brown outlet at bottom.....	4.91	5.41
AL-2108-15	Keyless, brown 3 way switch on right, no outlet	4.63	5.13
AL-2108-19	Keyless, brown 3 way switch on left, brown outlet at bottom.....	4.91	5.41

SIDE WALL BRACKET

Socket, switch and outlet are mounted on the strap, the porcelain fixture acting as a cover. Switch has "T" rating. For application to switch boxes or boxes with switch spacings only.

Extreme diameter 4¾ inches; overall height 7 inches; extends out, 3⅝ inches.

Standard package, 12.

Cat. No.	Description	Price Each White	Price Each Ivory
AL-2108-12	Keyless, brown S.P. switch at bottom, no outlet	$4.32	$4.82
AL-2108-13	Keyless, brown S.P. switch at bottom, brown outlet on side..	4.63	5.13
AL-2108-16	Keyless, brown 3 way switch at bottom, brown outlet on side..	4.91	5.41
AL-2108-17	Keyless, brown 3 way switch at bottom, no outlet	4.63	5.13

ALABAX LIGHTING FIXTURES

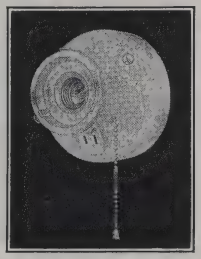
SIDE WALL BRACKET

No glass is supplied with this fixture. Has 2¼-inch fitter. Supplied in white or ivory glazes. Diameter, 5 inches. Extends out, 3 inches. For 3¼-inch or 4-inch boxes.

Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-9230	Pull	With	210	$2.88	$3.25
AL-9231	Pull	No	210	2.59	2.96
AL-9232	Keyless	With	213	2.59	2.96
AL-9233	Keyless	No	213	2.30	2.67
	With "T" Rated Levolier Switch				
AL-8230	Levolier	With	210	4.58	4.95
AL-8231	Levolier	No	210	4.28	4.66

SIDE WALL BRACKET



This bracket may be mounted on 3¼-inch or 4-inch boxes.

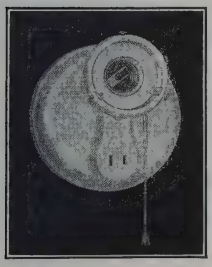
Supplied in white or ivory glazes.

Diameter base, 4¾ inches. Extends out, $3\frac{5}{32}$ inches. 2¼-inch fitter.

Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2017 ND	Pull	With	190	$2.53	$2.90
AL-2018 ND	Keyless	With	190	2.24	2.57
AL-2021 ND	Pull	No	190	2.12	2.49
AL-2012 ND	Keyless	No	180	1.75	2.12

SIDE WALL BRACKET



A general purpose bracket. For 3¼1inch or 4-inch boxes. Complete fittings to attach to box. Supplied in white or ivory glazes. Diameter of fixture, 5⅜ inches. Extends out, 3⅛ inches. Price does not include glass.

Standard package, 12.

Cat. No.	Type	Outlet	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-990	Pull	With	224	$2.90	$3.40
AL-980	Keyless	With	224	2.61	3.11
AL-982	Pull	No	224	2.61	3.11
AL-984	Keyless	No	224	2.33	2.82

ALABAX LIGHTING FIXTURES

OUTDOOR LANTERN

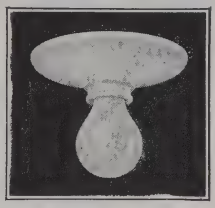
Clear glass has enclosed bottom. Uses 75 watt lamp or smaller. Diameter at base, 4¾ inches; extends out 5¾ inches. For 3¼, 4 inch, or switch boxes. No outlet. 275 lbs. per 100.

Cat. No.	Type	Price Each Brown	Price Each Black
AL-2604	Keyless	.....	$4.80
AL-2605	Keyless	$4.80	.....
AL-2606	Glass only	.90	.....

ONE-LIGHT CEILING

Diameter 5½ inches. Keyless. For 3¼-inch or 4-inch boxes. Supplied in white or ivory glaze.

Standard package, 12.



Cat. No.	Wt. Lbs. Per 100	Price Ea. White	Price Ea. Ivory
AL-3140	97	$1.23	$1.60

ONE-LIGHT CEILING

Diameter 5½ inches. Keyless. For 3¼-inch or 4-inch boxes. Supplied in white or ivory glaze.

Standard package, 12.

Cat. No.	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-3141	104	$1.23	$1.60

ONE-LIGHT CEILING

With Shadeholder Groove

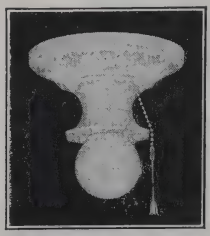
For use in office buildings, hotels, homes, etc. Generally used in closets, toilets, halls, etc.

This fixture stocked in white only. Can be supplied in creamy ivory.

For 3¼-inch or 4-inch boxes. Diameter base, $4\frac{13}{16}$ in. Standard package, 12.

Cat. No.	Description	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-859	Pull, short chain and long cord	135	$2.30	$2.75
AL-848	Pull, with short insulated chain	135	2.30	2.75
AL-2029	Pull short chain	140	2.30	2.75
AL-898	Keyless	135	1.60	1.97

BEAM LIGHT



Diameter 5½ inches. Supplied in the Alabax glazes—ivory and white.

Standard package, 12.

Cat. No.	Description	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2400	Pull, short chain and long cord	200	$1.81	$2.18
AL-2401	Keyless	194	1.62	2.00

ALABAX LIGHTING FIXTURES

ONE-LIGHT CEILING
With Flared Porcelain Ring

Complete with fittings to attach to 3¼-inch or 4-inch boxes.

Supplied in white or ivory glazes.

Diameter, 4¾ inches. Standard package, 12.

Cat. No.	Description	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2007 ND	Pull, short chain and long cord	174	$1.75	$2.12
AL-2011 ND	Keyless	174	1.56	1.94

ONE-LIGHT CEILING FIXTURE

Diameter base, 5$\frac{11}{16}$ inches. For 3¼-inch or 4-inch boxes.

Approximate shipping weight, 208 pounds per 100.

Cat. No.	Description	Price Each White	Price Each Ivory
AL-2106	Pull, short chain and long cord	$1.91	$2.28
AL-2107	Keyless	1.72	2.10
AL-2107LFT	Keyless, for lamp with left hand thread	1.83	2.21

ONE-LIGHT CEILING

Switch protected by special Alabax spring and snub, built to stand abuse, the only pull that can be placed upon the switch is the pull exerted by the protecting spring.

Diameter 5$\frac{11}{16}$ inches. White or ivory glazes.

Standard package, 12.

Cat. No.	Description	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2107-1	Levolier Switch	215	$4.55	$4.93

Prices do not include lamps.

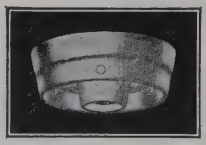
ONE-LIGHT SHURLOK

To prevent the theft of lamps in public places — this Alabax fixture is constructed with the famous P&S Shurlok — lamps may be locked in place — caretaker carries the keys.

For 3¼-inch or 4-inch boxes. Diameter, 5$\frac{11}{16}$ inches.

Cat. No.	Type	Std. Pkg.	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2107	Shurlok	12	208	$2.59	$2.96
AL-2398	Key	1	10	.74	.....

ALABAX LIGHTING FIXTURES

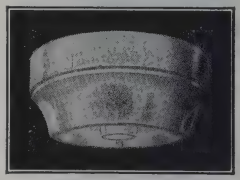


KEYLESS CEILING FIXTURE

White or ivory glaze finish. 4-inch fitter. Diameter of fixture, 5$\frac{3}{16}$ inches. For 3¼ or 4-inch boxes.

Cat. No.	Type	Std. Pkg.	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2072	Keyless	12	170	.....	$2.67
AL-2073	Keyless	12	170	$1.93	.....

CEILING FIXTURE



Keyless. 4-inch fitter. For 3¼-inch or 4-inch boxes. Diameter of fixture, 6½ inches. White or ivory glaze.

Standard package, 12.

Cat. No.	Description	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-10012	Keyless	310	$2.53	$3.15
AL-10013	Pull, short chain and long cord	315	4.40	5.02

KEYLESS CEILING FIXTURE

Keyless. May be supplied with chain hole to engage Levolier switch No. 43.

White glaze finish. 6-inch fitter.

Standard package, 12.

Cat. No.	Base	Diam. In.	Wt. Lbs. Per 100	Price Each
AL-2204	Medium	8⅞	488	$5.36

KITCHEN UNIT

Standard package, 12.

A 4-inch fitter or kitchen unit of graceful design. Has ample depth to meet any and all box conditions, including old gas pipe. Complete with fittings. Base, 5¾ inches. For 3¼-inch or 4-inch boxes.

Cat. No.	Type	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2019	Pull, short chain and long cord	250	$2.61	$3.11
AL-2020	Keyless	250	2.40	2.90
AL-2023	Keyless, with hole for Levolier Switch	240	2.55	3.05

ALABAX LIGHTING FIXTURES

KITCHEN UNIT

Designed for use with 100-watt lamps. Diameter of reflector, 8¼ inches; diameter of base, 5½ inches; overall height, 6½ inches.

Standard package, 12.

Cat. No.	Description	Wt. Lbs. Per 100	Price Each
AL-2032	Keyless	416	$4.55
AL-2033	With Pull Switch	427	6.46
AL-2033-1	Same as AL-2033 with Levolier switch protection	427	7.27

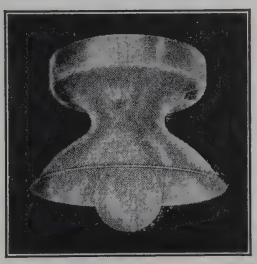
MOISTUREPROOF CEILING FIXTURE

This moistureproof fixture is supplied with glass, as listed; no lamp.

For 3¼-inch or 4-inch boxes. Diameter of base, 5$\frac{7}{32}$ inches. Standard package, 12.

Cat. No.	Description	Lamp Watts	Price Each White	Price Each Ivory
AL-2300	With 5-in. CRI glass	25-100	$3.48	$3.95
AL-2304	Glass only	25-100	1.27	.....
AL-2303	With 5-in. Opal glass	25-100	3.48	3.95
AL-2307	Glass only	25-100	1.80	.....
AL-2301	With 6-in. CRI glass	25-100	3.82	4.29
AL-2305	Glass only	25-100	1.34	.....

BATHROOM FIXTURE



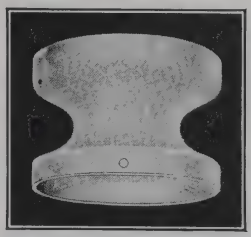
Designed for use in bathrooms and rooms of similar size. White glaze porcelain, complete with reflector and fixture cast integral. For use with 40 to 60-watt lamps.

Diameter of reflector 7¼ inches; diameter base 5⅜ inches; overall height 4¼ inches.

Standard package, 12.

AL-2030	Keyless	290	$3.56
AL-2031	With Pull Switch	297	5.46
AL-2031-1	Same as AL-2031 except with Levolier switch protection	297	6.33

ALABAX LIGHTING FIXTURES



CEILING FIXTURE

Keyless. 6-inch fitter. May be supplied with chain hole to engage Levolier switch No. 43. Diameter 6⅞ inches.

Standard package, 12.

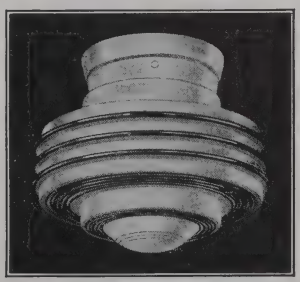
Cat. No.	Type	Wt. Lbs. Per 100	Price Each
AL-2250	Keyless, medium base	416	$4.89
AL-2250-1	Same as AL-2250, except with Levolier switch protection	425	7.72

KEYLESS CEILING FIXTURE

Keyless, with 4-inch fitter, complete with glass. Glass measures 8¼x7 inches deep. Diameter of base, 5$\frac{7}{32}$ inches; extends down 7¾ inches. For 3¼- or 4-inch boxes. White glaze finish.

Cat. No.	Type	Std. Pkg.	Wt. Lbs. Per 100	Price Each
AL-2608	Keyless	12	525	$4.40

KEYLESS CEILING FIXTURE

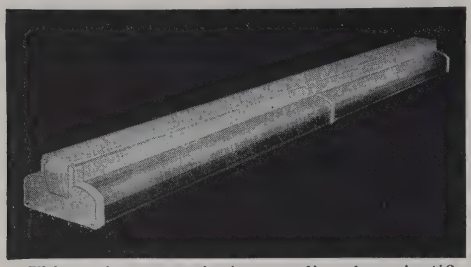


Keyless, with 4-inch fitter, complete with glass. For 3¼-inch or 4-inch boxes. Glass measures 8⅜x 6¼ inches. Diameter of fixture, 5$\frac{7}{32}$ inches. White or ivory glaze finish. Standard package, 4.

Cat. No.	Type	Wt. Lbs. Per 100	Price Each White	Price Each Ivory
AL-2432	Keyless	500	$5.71	$6.21

CURTIS FLUORESCENT LUMINAIRES

Industrialist Series



This series of luminaires applies the scientific concepts of brightness engineering to manufacturing and assembly plants, as well as many other industrial and semi-industrial areas. "Industrialist" luminaires provide both direct and indirect illumination. The indirect component lightens the ceiling and reduces severe contrast between luminaires and background. The direct component provides high levels of uniform illumination on working surfaces, assuring quick accurate seeing. The functional, attractive appearance of the luminaires give the area lighted by them a pleasant environment in contrast to the usual dark and dreary factory atmosphere. Side panels and center V-bar reflector conceal a cross-wise view of the lamps within approximately 25° of the horizontal.

Materials and Finishes

Wire channel and longitudinal V-bar reflector are of heavy gauge steel. Wire channel is finished light gray baked enamel; reflector finished high-reflectance baked white "Fluracite." End plates and mid point ribs are die castings finished light gray. Side panels are fine-ribbed polystyrene plastic. End ornaments are ivorytone plastic.

Wiring

Industrialist luminaires are regularly supplied wired for 110-125 volt AC circuits, with high power factor, 430 milliamperes, two lamp ballasts. Prices for other voltages quoted upon application. Lamps and lamp starters not supplied.

Pendant or Close-Ceiling Mounting

Curtis Industrialist luminaires can be mounted directly to the ceiling with screws, toggle or expansion bolts, or they may be pendant mounted. Either type of installation, whether installed as individual units or in continuous lines, is facilitated by the use of Cat. No. 1009 sliding clamp hanger. This hanger allows considerable flexibility in placement of hangers and permits by-passing building construction obstacles such as beams, sprinkler heads, etc. Individually mounted luminaires require two No. 1009 hangers. For continuous lines order one more No. 1009 hanger than the number of luminaires in the row.

Ease of Maintenance

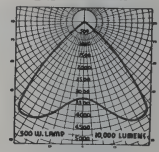
Polystyrene side panels are quickly and easily removed for cleaning without the use of tools. Side panels are removed in the same manner as the slimline lamps i.e. the push pull principle.

Cat. No.	Description	Dimens., In. L.	W.	D.	Net Wt.Lbs.	Price
1575CLH	2-72W, T12, 96"†	96⅜	11⅜	6¼	52	**$69.75**
1574CLH	2-36W, T12, 48"†	48⅜	11⅜	6¼	31	**42.40**
1577CLH	2-40W, T12, 48"‡	48⅜	11⅜	6¼	27	**33.10**
1578CLH*	4-40W, T12, 48"‡	96⅜	11⅜	6¼	52	**61.00**
1585	4-72W, T12, 96"†	96⅜	11⅜	6¼	68	**86.65**
1584	4-40W, T12, 48"†	96⅜	11⅜	6¼	39	**53.30**
12025	8 ft. Louver	.....	.....	.....	6	**15.75**
12027	4 ft. Louver	.....	.....	.....	3	**9.60**
1009	Sliding clamp hanger	.....	.....	.....	½	**.37**
6453	Adapter Washers¶	.....	.....	.....	....	**.47**

*Two lamps parallel. †Slimline Type. ‡Starter Type. ¶Two required for each 1009 used with standard Curtis Hangers (Pkg. 10).

INCANDESCENT INDUSTRIAL UNITS

WITH "X-RAY" SILVER MIRROR REFLECTORS FOR 300- OR 500-WATT PS LAMPS



No. 588

No. 588 consists of "X-Ray" Silver Mirror Reflector (12" diameter) socket and vibration proof holder. Socket shell has back outlet tapped for ½-inch conduit with ⅜-inch reducer. Height to top of socket 14¼ inches. Package, 4.

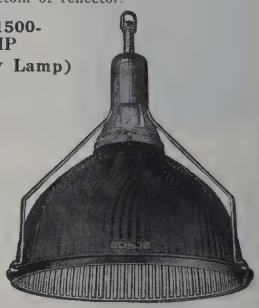
COEFFICIENTS

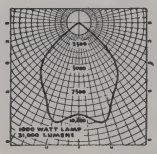
Ceiling	75%			50%			30%	
Walls	50%	30%	10%	50%	30%	10%	30%	10%
Room Index J	.48	.45	.43	.47	.45	.43	.45	.42
I	.57	.55	.54	.56	.54	.53	.54	.52
H	.61	.60	.59	.60	.59	.58	.59	.57
G	.65	.64	.64	.64	.62	.62	.62	.61
F	.69	.67	.65	.66	.65	.64	.65	.63
E	.71	.70	.69	.70	.69	.67	.68	.67
D	.75	.73	.71	.73	.71	.71	.71	.70
C	.77	.75	.72	.75	.73	.71	.71	.71
B	.78	.76	.75	.76	.74	.73	.73	.72
A	.79	.77	.76	.77	.75	.74	.74	.73

Cat. No.	Description	Pkg. Wt.	Price Each
588	Reflector Unit for 300- or 500-watt PS lamp (holder and ½-inch Mogul socket with ⅜-inch reducer included)	24	**$14.10**
588-R	Reflector only for 588	....	**12.50**
588-T	Reflector Unit (*)	29	**15.85**

*Includes No. 588 reflector with socket and tripod holder and supporting ring for bottom of reflector.

FOR 750-, 1000-, 1500-WATT PS LAMP (or 400-Watt Mercury Lamp)





No. 589-T

COEFFICIENTS

Ceiling	75%			50%			30%	
Walls	50%	30%	10%	50%	30%	10%	30%	10%
Room Index J	.47	.45	.42	.45	.44	.42	.44	.41
I	.56	.53	.52	.54	.53	.51	.52	.50
H	.60	.59	.58	.58	.57	.57	.57	.56
G	.64	.63	.62	.62	.61	.60	.61	.59
F	.67	.65	.64	.64	.63	.62	.63	.61
E	.69	.68	.67	.68	.67	.65	.66	.65
D	.73	.71	.70	.71	.70	.69	.69	.68
C	.75	.73	.71	.73	.71	.70	.70	.69
B	.76	.74	.73	.74	.72	.71	.71	.70
A	.77	.76	.74	.75	.73	.72	.72	.71

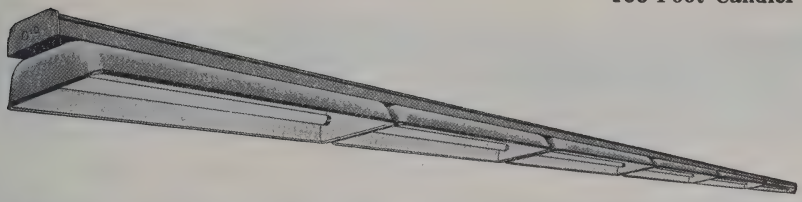
No. 589 consists of an "X-Ray" Silver Mirror Glass Reflector (16" diam.), socket and vibration proof holder. Unit is provided with a loop fitting or loop can be discarded for mounting on ½-inch conduit. Height of unit to top of socket husk is 17½ inches. Standard package, 4.

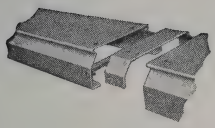
Cat. No.	Description	Pkg. Wt.	Price Each
589	Reflector Unit for 750-1000-1500-watt PS lamp or 400-watt Mercury Lamp	65	**$23.25**
589-R	Reflector only for 589	....	**19.85**
589-T	Reflector Unit (*)	73	**28.90**

*Includes No. 589 reflector with tripod holder, retaining ring, socket and loop fitting.

MILLER CONTINUOUS WIREWAY FLUORESCENT LIGHTING SYSTEMS FOR INDUSTRIAL REQUIREMENTS

50-Foot Candler
100-Foot Candler



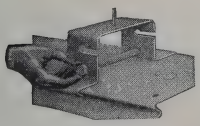


CHANNELS JOIN TOGETHER

By means of a connecting strap, one channel section joins to another to form continuous rows of light in practically any length desired.

REFLECTORS EASILY REMOVABLE

Reflectors can be removed from channels without disturbing wiring for washing, or to get at operating equipment — no tools required.



SIMPLIFIED MOUNTING

Installation of Miller 50 Foot Candler and 100 Foot Candler is simplified by the flanged top wireway channel. This new and important labor saving construction feature makes it possible to mount channels to hanger support straps without the necessity of drilling holes or fastening with bolts or nuts. The hanger straps fit into the continuous grooves of channels and holds them in place in a positive but readily removable manner. Straps can be attached to channels at any point along their entire length. Straps are arranged for single stem pendant mounting as well as for cable mounting.

Continuous row fluorescent lighting, pioneered by The Miller Company, is now the new standard for industry. The Miller 50 Foot Candler was the first RLM Continuous Wireway Fluorescent lighting system for general illumination. Since that time its user-benefits have been proven in plants and establishments of all types and sizes in all sections of the country.

Miller 50 Foot Candler and 100 Foot Candler Offer Broad Lighting Application

While the Miller 50 Foot Candler meets most industrial requirements, the 100 Foot Candler was developed for use in locations with higher mounting or wider spacing of rows — or to fill the need of higher illumination in areas with average ceiling heights and spacing. The 100 Foot Candler uses the 100 watt size Fluorescent lamp and the 50 Foot Candler uses the 40 watt lamp size.

THE PROVEN AND GUARANTEED LIGHTING SYSTEM

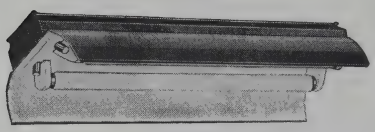
Both the 50 Foot Candler and 100 Foot Candler have many noteworthy features which have been engineered into this "best-seeing" lighting equipment. This equipment has proven itself to owners in actual use — and proven itself to architects and engineers through considerable savings in installation time and cost.

IMPORTANT FEATURES

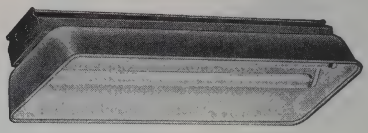
1. The Best Seeing Light At Low Cost.
2. Modern Appearance.
3. Easier And Quicker Installation.
4. Reduction In User's Wiring System.
5. Minimum Relocation Of Outlets.
6. Simplified Maintenance.
7. Special Construction Features.

MILLER INDUSTRIAL FLUORESCENT LIGHTING FIXTURES

STANDARD SOCKET FIXTURES FOR TWO 85-WATT GENERAL LINE LAMPS



Open End Reflector



Closed End Reflector

Designed to provide high intensity lighting in areas with higher mounting or wider spacing. Sturdily constructed for long service. Enclosed ballast — open or closed end reflectors. Takes 2—85 watt lamps. Steel reflector is grey outside, white inside. Channel is grey. Has two sets of knockouts in top on 36 inch centers for ½ and ¾ inch conduit. May be mounted by chain, rod, conduit or cable.

Cat. No.	User Net Price	Description	Dimensions Inches Length	Width	Depth	Net Wt. Lbs.
HOD260	**$45.40**	Open end baked enamel reflector	66	16	8 1/16	41½
HED260	**47.55**	Open end RLM porcelain enamel reflector	66	16	8 1/16	43½
HEDD260	**53.35**	Closed end RLM porcelain enamel reflector	66	16	7 13/16	44½

Note: Fixtures can be supplied for other line voltages on special order. Fixtures are wired complete with FS850 "Watch Dog" no-blink manual reset starters and auxiliaries — lamps not included.

ACCESSORIES FOR MOUNTING

No. ACH1621

No. C60

No. 1749A

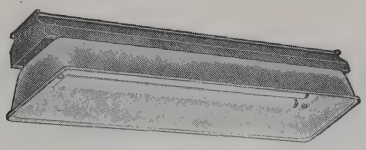
No. H2105D

Cat. No.	User Net Price	Description	Approx. Net Weight
ACH1621	**$3.35**	Canopy assembly with ball joint for pendant mounting. Finished baked grey enamel	2 lb.
C60	**.60**	Clamp hanger for close ceiling or pendant mounting. Extends ¾ inch below ceiling	9 oz.
H1749A	**.60**	Clamp hanger for surface or pendant mounting. Extends 2 7/16 inches below ceiling	10 oz.
H2105D	**.95**	Pair 5-ft. chains (#10 single steel jack chain 150 lb. test) for chain suspension of heavy duty luminaires	1¾ lb.

Note: For continuous row mounting a minimum of two chains per channel plus one chain for end of row is required. (For attaching chain other than from the end plates at ends of row, the means of attachment must be provided by user.)

MILLER INDUSTRIAL FLUORESCENT LIGHTING FIXTURES

TURRET SOCKET FIXTURES FOR 40-WATT GENERAL LINE LAMPS



Closed End Reflector

Meets the demand for sturdy heavy duty enclosed ballast fixtures for general or localized lighting of industrial areas. Closed end reflectors. Available for 2 and 3—40 watt lamps. Steel reflector is finished in grey outside, white inside. Channel is grey. Has two sets of knockouts in top on 30 inch centers for ½ and ¾ inch conduit. May be mounted by chain, rod, conduit or cable.

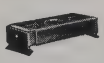
Cat. No.	User Net Price	Description	Turret Socket Spacing	Dimensions in Inches — Length	Width	Depth	Approx. Net Wt. Lbs.
		2 Lamp Fixtures					
HTEDD248-5″	**31.30**	Closed end RLM porcelain enamel reflector	5″	53	13 5/16	6 13/16	30½
		3 Lamp Fixtures					
HTEDD358-5″	**41.30**	Closed end RLM porcelain enamel reflector	5″	53	13 5/16	6 13/16	34½

Note: Standard for 110-125 volt, 60 cycle AC service. Fixtures for other line voltages on special order. Fixtures are wired complete with FS40 "Watch-Dog" starters. Lamps are not included.

All of the above heavy duty 50 Footcandler fixtures are also avaiable in single and double lengths for continuous row mounting.

ACCESSORIES FOR MOUNTING

No. ACH1621



No. C60

No. 1749A

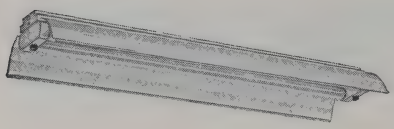
No. H2105D

Cat. No.	User Net Price	Description	Approx. Net Weight
ACH1621	**$3.35**	Canopy assembly with ball joint for pendant mounting. Finished in baked grey enamel	2 lb.
C60	**.60**	Clamp hanger for close ceiling or pendant mounting. Extends ¾ inch below ceiling	9 oz.
H1749A	**.60**	Clamp hanger for surface or pendant mounting. Extends 2 5/16 inches below ceiling	10 oz.
H2105D	**.95**	Pair 5-ft. chains (#10 single steel jack chain 150 lb. test) for chain suspension of heavy duty luminaires	1¾ lb.

Note: For continuous row mounting a minimum of two chains per channel plus one chain for end of row is required. (For attaching chain other than from the end plates at ends of row, the means of attachment must be provided by user.)

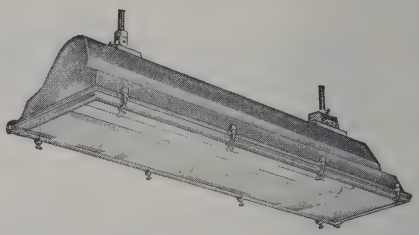
MILLER INDUSTRIAL FLUORESCENT LIGHTING FIXTURES

TURRET SOCKET 50-FOOT CANDLER JR. FIXTURE FOR 2 40-WATT GENERAL LINE LAMPS



For General or localized lighting of industrial areas. Turret socket comes as an integral part of the fixture with the sockets carefully concealed in housings at each end of fixture. Lamps lock firmly in place without turning — simplifies installation and maintenance. Takes 2–40 watt general line fluorescent lamps. Steel reflector is white inside and out. Channel is white. Knockouts for ⅜", ½" and ¾" conduit are provided at both ends of channel. Equipped with G.E. 89G343 cross-section ballast.

DUST AND VAPORTIGHT FLUORESCENT FIXTURE FOR 40-WATT GENERAL LINE LAMPS



For use in hazardous locations having explosive or inflammable dusts. . . . Powder Plants, Arsenals, Grain Elevators, Starch and Sugar Mills and similar industries. These fluorescent fixtures are both dust tight and vapor tight. They are rated by Underwriters' laboratories as Dust Tight for Class II Group F and Group G Hazardous Service, and also as Vapor Tight. Two types available for 2 and 3—40 watt lamps. Steel reflector grey outside, white inside.

Cat. No.	User Net Price	Description	Turret Socket Spacing	Dimensions in Inches Length	Width	Depth	Approx. Net Wt. Lbs.
		Fixtures with Closed Top Reflector					
LTOD248-3½"	$23.75	Open end baked enamel reflector	3½"	49⅛	12	5⅛	18¾
LTED248-3½"	25.00	Open end RLM Porc. enamel reflector	3½"	49⅛	12	5⅛	20¼
		Fixtures with Reflector with Apertures in Top					
LTOUD248-3½	24.15	Open end baked enamel reflector	3½"	49⅛	12	5⅛	18¾
LTEUD248-3½	25.40	Open end RLM Porc. enamel reflector	3½"	49⅛	12	5⅛	20¼

Prices include FS40 "Watch-Dog" starters.

Cat. No.	User Net Price	Description	Dimensions Inches Length	Width	Depth	Approx. Net Wt. Lbs.
		Dust and Vaportight Fluorescent Fixtures				
VREDD248–110	76.70	2 Lt. plate glass				
	95.05	2 Lt. Herculite glass	55⅛	13½	11½	75
VREDD348–110	85.90	3 Lt. plate glass				
	104.25	3 Lt. Herculite glass	55⅛	13½	11½	85

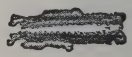
Note: Distance between conduit outlets on VREDD248 and 348 is 36 inches. Fixtures wired complete with FS40 "Watch Dog" no-blink manual reset starters and auxiliaries — lamps not included. VREDD248 and 348 are for suspension from two pendant conduit stems.

ACCESSORIES FOR MOUNTING MILLER CONVAIRE FIXTURES

No. C50

No. H2106A

No. H2106B



H2105A

Cat. No.	User Net Price	Description	Approx. Net Wt.
C50	$0.55	Clamp hanger for close ceiling or pendant mounting. Extends ¾ inch below ceiling.	6 oz.
H2106A	.40	Clamp hanger for surface or pendant mounting. Extends 3 inches below ceiling.	7 oz.
H2106B	.60	Clamp hanger same as above but with cable support for ⅛ inch cable either crosswise or lengthwise of fixture. Mounts luminaire 2⅝ inches below top of cable.	10 oz.
H2105A	.60	Pair 5 ft. chains (#12 single steel jack chain 100 lb. test) for chain suspension.	1 lb.

Note: For continuous row mounting a minimum of two chains per channel plus one chain for end of row is required. Chains attach to holes in channel.

MILLER INDUSTRIAL FLUORESCENT LIGHTING FIXTURES

50-FOOT CANDLER JR. FIXTURE WITH STANDARD SOCKETS FOR 2-40 WATT GENERAL LINE LAMPS

Open End Reflector

The 50-foot Candler, Jr. luminaire for 2-40 watt General Line fluorescent lamps is designed for individual mounting in industrial areas. It may be pendant or surface mounted on stems, chains, or messenger cable from the knockouts or by clamp hangers. It has an open end reflector.

Where supplied with porcelain enameled reflector, luminaire complies with RLM Specification No. 9. It has an overall efficiency of 83%. Shielding is 13° crosswise.

Flanged top of channel permits clamp mounting anywhere along its length. Knockouts for ⅜-inch, ½-inch, and ¾-inch conduit are provided at both ends of top of channel. The end plate has a ½-inch knockout for switch mounting.

Lamp holders position on 3½-inch centers.

Wiring channel and end plates are .037-inch steel protected by Bonderite and finished in chip and peel-resistant high-bake white enamel. Reflectors are .037-inch steel, finished white inside and out in choice of RLM porcelain enamel or Bonderite high-bake enamel.

110-125 volt, 60 cycle HPF Certified two lamp small cross section G.E. No. 89G343 ballast, Certified FS40 "Watch-Dog" manual reset starters, and No. 18 type AF fixture wire are standard. Availability of ballasts for other voltages on request.

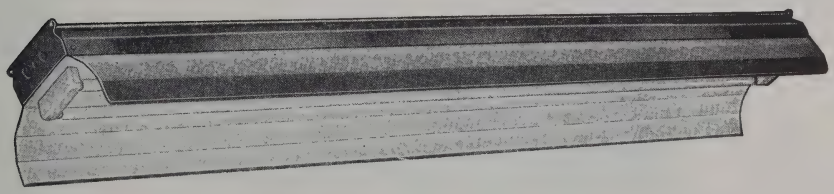
Cat. No.	User Net Price	Finish Open-end Reflector	No. of Lamps	Length	Depth Overall	Width Reflector	Approx. Net Wt. Lbs.
LOD248	**$22.10**	Baked White Enamel	2-48"40W	48"	5⅛"	12"	18
LED248	**23.35**	RLM White Porcelain Enamel	2-48"40W	48"	5⅛"	12"	19½

Note: Prices do not include lamps.

Prices include FS40 "Watch-Dog" starters. FS4 starters can be supplied where specified at a reduction of **50c** (User Price) per starter.

Prices will be quoted on request for other than standard volt service.

TURRET SOCKET FIXTURES FOR 96-INCH SLIMLINE LAMPS

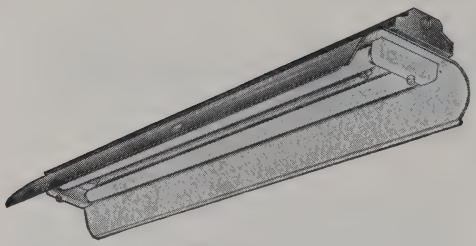


2 Lamp Fixtures for 96" T12 Slimline Lamps

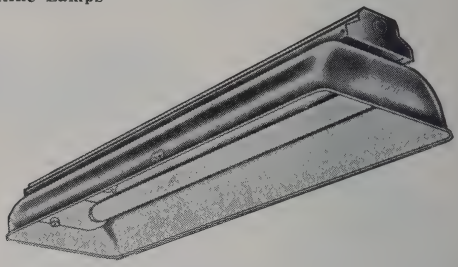
Cat. No.	User Net Price	Description	Turret Socket Spacing	Dimensions in Inches Length	Width	Depth	Approx. Net Wt. Lbs.
HTOD296S	**$56.25**	Open end baked enamel reflector	5"	101	13	6 15/16	50
HTED296S	**59.25**	Open end porcelain enamel reflector	5"	101	13	6 15/16	54

Note: For T12 Slimline lamps 2 lamp lead lag ballasts and instant starting single lamp 430 MA, 110 volt ballasts are standard. 110-125 volt 60 cycle AC standard. Lamps are not included. This fixture is also available for continuous row mounting.

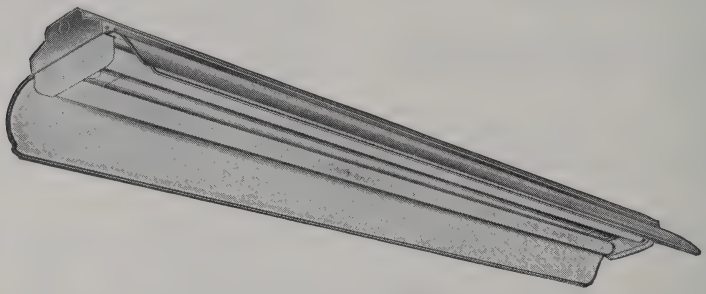
DAY-BRITE RLM INDUSTRIAL FIXTURES
"DAY-LINE" UNIT
For 40- and 85-Watt Fluorescent
And 75-Watt Slimline Lamps



Fluorescent
Open End Reflectors



Fluorescent Closed
End Reflectors



Slimline Open End Reflectors

Complete single fluorescent units with open and closed end reflectors for two or three 40-watt lamps and two 85-watt lamps.

Slimline units are listed for two and three 75-watt lamps and are supplied with open end reflectors.

Service Features — Sockets, lamp starters and ballasts are fastened in the fixture, leaving reflector free for complete removal for servicing and cleaning. The reflector is fastened to the hood by hand-operated, non-removable wing nuts which are easily loosened without the use of tools. Lamp starters can be replaced without disturbing the lamps.

Reflectors—Finished in vitreous porcelain enamel. The Reflection factor is 82% or more and lateral shielding angle is 13° on 40-watt and 75-watt units and 14° on 85-watt units.

Fixture Hood—Die-formed steel channel finished in baked aluminum gray enamel.

Wiring and Control Equipment — Fluorescent fixtures furnished wired with HPF ballasts, no-blink type starters and sockets for 60 cycle, A.C. operation. Slimline fixtures equipped with 430 milliampere HPF ballasts and Turret sockets.

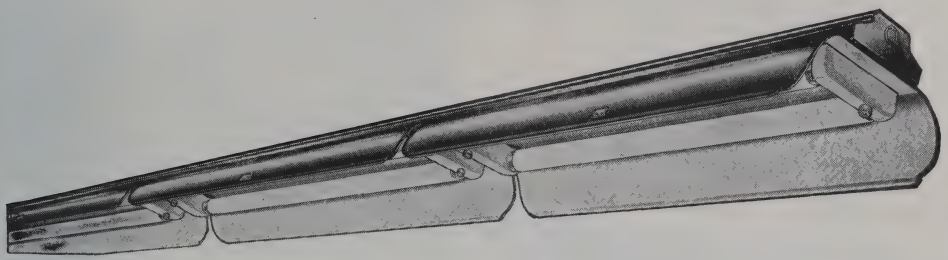
The new Turret sockets are used on the 40-watt and 75-watt fixtures for trouble-free lamp mounting and to speed maintenance. Push lamp either way to install or remove.

Fluorescent Fixtures Include No-Blink Type Starters

For Lamps No.	For Lamps Size	WITH OPEN END REFLECTORS Cat. No.	WITH OPEN END REFLECTORS Price	WITH CLOSED END REFLECTORS Cat. No.	WITH CLOSED END REFLECTORS Price	Overall Dimensions Height	Overall Dimensions Width	Overall Dimensions Length	Approx. Shipping Weight, Lbs.
				For Two 40-Watt Fluorescent Lamps					
2	48"-40w-110v	**40281-W**	**$41.72**	**40291-W**	**$45.92**	7"	13¼"	52¾"	33
				For Three 40-Watt Fluorescent Lamps					
3	48"-40w-110v	**40381-W**	**56.72**	**40391-W**	**60.92**	7"	13¼"	52¾"	38
				For Two 85-Watt Fluorescent Lamps					
2	60"-85w-110v	**50231NBW**	**69.32**	**50221NBW**	**78.00**	8⅛"	16¼"	66"	55
				For Two 75-Watt Slimline Lamps					
2	96"-75w-110v	**91281-8**	**87.60**	.....	.....	8"	13¼"	7'–11½"	65
				For Three 75-Watt Slimline Lamps					
3	96"-75w-110v	**91381-8**	**121.56**	.....	.....	8"	13¼"	7'–11½"	73

DAY-BRITE FLUORESCENT INDUSTRIAL FIXTURES
"DAY-LINE" RLM Continuous Fixtures

For 40- and 85-Watt, Fluorescent Lamps



A continuous "DAY-LINE" installation for two or three 40-watt lamps and two 85-watt lamps can be made up from the parts listed here.

A complete installation is made up of as many 8-ft. (105½" long) or 10-ft. (132" long) Basic sections and reflectors as may be required. End caps must be ordered as needed. In the event that an odd length is required for fill-in, a 4-ft. section (52¾" long) or a 5-ft. section (66" long) can be used.

Open and closed end reflectors are one-piece and accommodate two or three 40-watt or two 85-watt lamps. They are finished in vitreous porcelain enamel in light gray on the outside and white on the inside.

Reflectors are fastened to channel by two hand-operated non-removable wing nuts . . . easily removed by hand. Cleaning of the reflector and access to fixture interior is thereby simplified.

Fixtures are furnished wired and include sockets, HPF ballasts and No-Blink type starters. Starters are located behind the lamps for ease of maintenance. Turret sockets furnished on 40-w. fixtures.

Channel is finished in baked aluminum gray enamel. Unique design of this channel permits the application of the mounting accessories listed.

Fixtures Include No-Blink Type Starters

FOR 48-INCH, 40-WATT, 118-VOLT LAMPS

8-Foot Channel Section with Coupling							4-Foot Fill-In Channel Section						
No. Lamps	Cat. No.	Price	Overall Dimensions Height	Width	Length	Approx. Weight Lbs.	No. Lamps	Cat. No.	Price	Overall Dimensions Height	Width	Length	Approx. Weight Lbs.
4	41488-CO	$58.80	5"	7"	105½"	38	2	41284-O	29.12	5"	7"	52¾"	33
6	41688-CO	81.00	5"	7"	105½"	44	3	41384-O	44.12	5"	7"	52¾"	32

FOR 60-INCH, 85-WATT, 118 VOLT LAMPS

10-Foot Channel Section with Coupling							5-Foot Fill-In Channel Section						
4	51432-CO	108.00	5½"	7"	132"	62	2	51232-O	53.72	5¼"	7"	66"	35

Open End 40W. Reflector No. **40385, $11.40** each list. Closed End No. **40395, $15.60** each list.
Open End 85W. Reflector No. **51230, $14.40** each list. Closed End No. **51220, $23.12** each list.

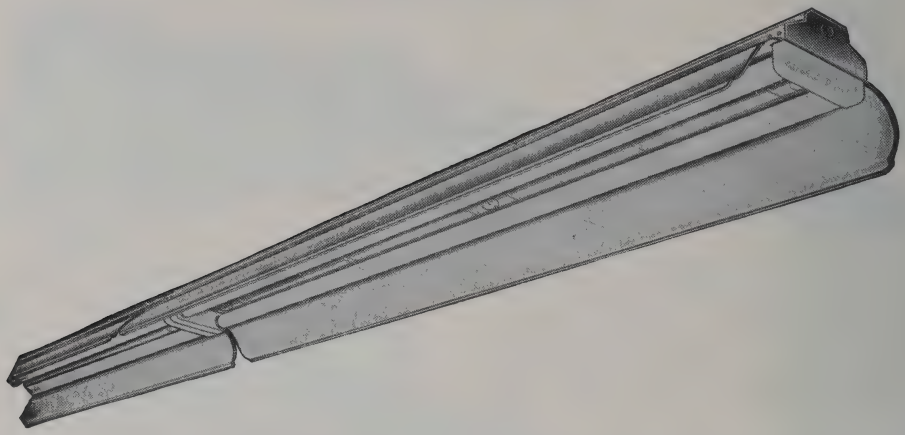
FITTINGS

No.	Description	List Price Each	Approx. Wt., Lbs.
9950	Channel Coupling	$.72	½
9951	Channel End Cap	.60	¼
9952-A	"Ice-Tong" Hanger Clamp for ⅜" rod or mounting screw	1.20	1
9952-B	"Ice-Tong" Hanger Clamp for ½" conduit pipe hangers	1.20	1
9952-C	"Ice-Tong" Hanger Clamp for ⅜" iron pipe hangers	1.20	1
9953	Cable Clamp for messenger cable mounting	1.40	1
9957-A	Hanger Strap for ⅜" rod	.36	¼
9957-B	Hanger Strap for ½" conduit pipe hangers	.36	¼
9957-C	Hanger Strap for ⅜" iron pipe hangers	.36	¼

DAY-BRITE SLIMLINE INDUSTRIAL FIXTURES

"DAY-LINE" RLM CONTINUOUS FIXTURES

For 75-Watt and 40-Watt Lamps



A continuous "DAY-LINE" installation for two or three 40-watt or 75-watt Slimline lamps can be made up from the parts listed here.

A complete installation is made up of as many 8-ft. (7'-11½" long) Basic sections and reflectors as may be required. End caps must be ordered as needed. In the event that an odd length is required for fill-in, a 4-ft. section (3'-11½" long) can be used.

Reflectors are one-piece and accommodate two or three 40-watt or 75-watt lamps. They are finished in vitreous porcelain enamel in light gray on the outside and white on the inside.

Reflectors are fastened to channel by hand-operated non-removable wing nuts . . . easily removed by hand. Cleaning of the reflector and access to fixture interior is thereby simplified.

Fixtures are furnished wired and include Turret sockets and 430 milliampere HPF ballasts.

Channel is finished in baked aluminum gray enamel. Unique design of this channel permits the application of the mounting accessories listed.

75-Watt 8-Foot Channel Section with Coupling

No. Lamps	Cat. No.	Overall Dimensions Ht.	Wdth.	Lgth.	Approx. Wt.Lbs.	List Price
2	**91208-CO**	5"	7"	95½"	36	**$59.40**
3	**91308-CO**	5"	7"	95½"	42	**93.36**

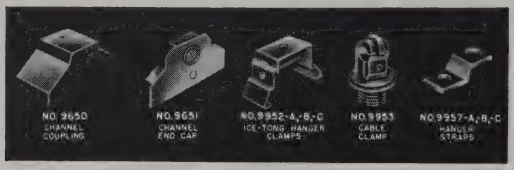
40-Watt 4-Foot Fill-in Channel Section

No. Lamps	Cat. No.	Overall Dimensions Ht.	Wdth.	Lgth.	Approx. Wt.Lbs.	List Price
2	**41208-O**	5"	7"	47½"	34	**$39.00**
3	**41308-O**	5"	7"	47½"	33	**63.60**

Open End Reflector for 40-watt Day-Line No. 41210, **$11.40** each list.

Open End Reflector for 75-watt Day-Line No. 91210, **$27.00** each list.

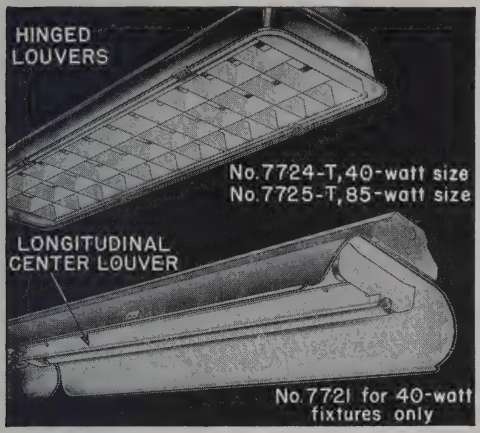
FITTINGS



Cat. No.	Description	Approx. Wt. Lbs.	List Price Each
9650	Channel Coupling	½	**$ .72**
9651	Channel End Cap	¼	**.60**
9952-A	"Ice-Tong" Hanger Clamp for ⅜" rod or mounting screw	1	**1.20**
9952-B	"Ice-Tong" Hanger Clamp for ½" conduit pipe hangers	1	**1.20**
9952-C	"Ice-Tong" Hanger Clamp for ⅜" iron pipe hangers	1	**1.20**
9953	Cable Clamp for messenger cable mounting	1	**1.40**
9957-A	Hanger Strap for ⅜" rod	¼	**.36**
9957-B	Hanger Strap for ½" conduit pipe hangers	¼	**.36**
9957-C	Hanger Strap for ⅜" iron pipe hangers	¼	**.36**

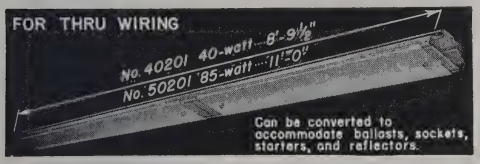
DAY-BRITE "DAY-LINE" ACCESSORIES

LOUVERS



Cat. No.	Description	Approx. Shpg. Wt. Lbs.	List Each
	Hinged Louvers		
7724-T	For 40-Watt Fixtures.....	10	**$11.12**
7725-T	For 85-Watt Fixtures.....	16	**14.64**
9652	For 75-Watt Fixtures.....	20	**22.20**
	Longitudinal Louvers		
7721	For 2-lamp, 40-Watt only	3	**2.40**

BLANK CHANNEL SECTIONS

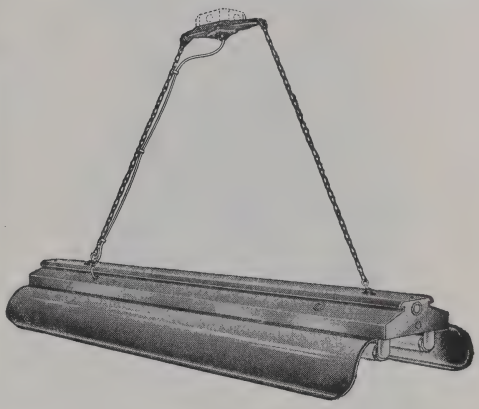

FOR THRU WIRING
No. 40201 40-watt—8'-9½"
No. 50201 85-watt—11'-5"
Can be converted to accommodate ballasts, sockets, starters, and reflectors.

Cat. No.	Description	Approx. Shpg. Wt. Lbs.	List Each
40201	For 40-Watt Fluorescent	30	**$19.20**
50201	For 85-Watt Fluorescent	37	**22.80**

HANGERS AND CANOPY

Cat. No.	Description	Approx. Shpg. Wt. Lbs.	List Each
9963	Pair 5-ft. Chain Hangers with "S" Hooks.....	1	**$0.96**
9972	Canopy-Slips ½" I.P.	½	**1.20**
7717	"A-J" Adjustable Stem Hanger—24" length	2½	**4.08**

DAY-BRITE "HYDEE" FIXTURE HANGER

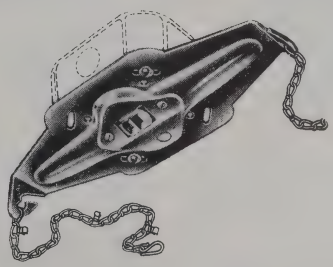


TYPICAL INDUSTRIAL FIXTURE INSTALLATION

The new DAY-BRITE "HYDEE" hanger can be used with all chain suspension mounted industrial fixtures. It is furnished complete including receptacle for two-prong plug, two 5 ft. chains, "S" hooks and cord clamps.

Two screws hold the "HYDEE" hanger to the ears of a standard outlet box or plaster ring. It fits both 3¼ and 4-inch outlet boxes.

Underwriters' Approved **Patents Pending**



Catalog No. 9988

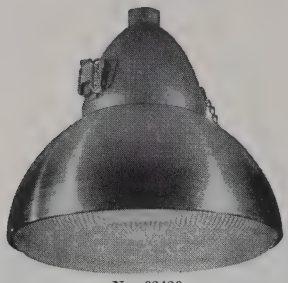
The "HYDEE" hanger, when used with the chains that are furnished, provides grounding for the fixture if the outlet box is grounded, thus allowing the use of two wire cord and plug sets.

This is an entirely new and different method of fixture support design that will save time and expense in installation and maintenance. An additional feature of this new idea is the fact that the entire fixture can be easily removed for servicing, eliminating the necessity of doing extensive repair work at the point of installation.

The "HYDEE" hanger, Catalog No. **9988**, lists at **$2.00** each in quantities of ten or more. For less than ten, add 10%.

HOLOPHANE VAPOR-TIGHT, DUST-TIGHT LIGHTING UNITS

EXTENSIVE DISTRIBUTION

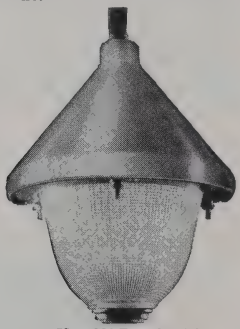


No. 02420

No. 02328

National and Local Electrical Inspection Authorities require, for certain defined locations, lighting equipment which is either vapor-tight or dust-tight. Holophane has developed two lines of light control units to meet all of the job conditions in these two fields.

No. 02470



Nos. 830 D and 832 D

Underwriters Approved—Class II

GROUP E—atmosphere containing metal dust.

GROUP F—atmosphere containing carbon black, coal or coke dust.

GROUP G—atmosphere containing flour, starch, and grain dust.

The units in both categories are the same; those with the identifying suffix V belong to vaportight line. Units with the identifying suffix D are dust-tight units. All units have been carefully designed to comply in full to the Underwriters Laboratories requirement.

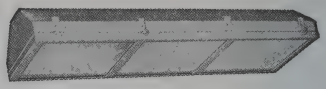
No. 02420, 200-300 watt, represents the newest in incandescent vapor proof construction, as well as unusually high efficiency. Unit, thru bottom refractor, gives extensive light distribution, has metal covered reflector, and is attached to gasketed fitter by spring clamps to insure vapor tight fit. Nos. 02328, and 02470 complete the line of symmetric extensive distribution units.

Nos. 02472 and 02476-V give asymmetric type distributions; Nos. 830-D and 832-D are dust tight symmetric WIDE-SPRED* units.

*Reg. U.S. Pat. Off.

HOLOPHANE VAPOR-TIGHT, DUST-TIGHT LIGHTING UNITS

EXTENSIVE DISTRIBUTION



Vapor proof units for fluorescent lamps, Nos. 9061 etc., have improved design. Suspension units (9061 etc.) have detachable bottom; recessed units (9061-TS etc.) have flange for flush mounting and top of unit is removable for servicing.

Cat. No.	Lamp Wattage	Dimens., Inches Diam.	Depth	Shp.Wt. Lbs. Ea.
	Extensive Distribution			
02470	100†–150	9⅞	10¾	8½
02328	100	8⅝	11⅜	8½
02420	200–300‡	14⅛	14	20
	Asymmetric Extensive Distribution			
02472	100†–150	9⅞	10⅞	8½
02476-V	100†–150	9⅞	10	8½
	Wide Spread Distribution			
830-D	100†–150	9⅛	10$\frac{13}{16}$	11
832-D	200	10¼	12$\frac{5}{16}$	13

†Use 1⅝-inch socket extension. ‡6" l.c. med. base lamp.

CATALOG DATA
Fluorescent Units

Cat. No.	Lamps	Shp.Wt. Lbs. Ea.
9061	3-F40T12 Bipin	92
9062	2-F40T12 Bipin	89
9071	3-F48T12 Slimline	103
9072	2-F48T12 Slimline	93
	Length 51¾"; width 16¼" depth 8½".	
9061-TS	3-F40T12 Bipin	101
9062-TS	2-F40T12 Bipin	98
9071-TS	3-F48T12 Slimline	112
9072-TS	2-F48T12 Slimline	102
	Length 55¾"; width 19¼"; depth 8½".	

V—Vaportight only. D—Dust tight only.

HOLOPHANE LOBAY* LIGHTING UNITS

ONE-POINT-FIVE LOBAY REFLECTORS

Nos. 606, 615

Nos. 606BC, 615BC

For all kinds of industrial and commercial utility applications.

These low cost units are designed to provide adequate even illumination on spacing as great as 1.5 times the mounting height above the work. Unit is designed with a shielding angle of 25° to effectively eliminate glare. Economical to install and operate. Two sizes are available to accommodate lamps ranging from 25 to 150 watts.

Intensive distribution. 606-615 tapped for ½-inch pipe. BC designates 3¼ or 4-inch box cover.

Cat. No.	Lamp Wattage	Dimens., Inches Diam.	Depth	Shp.Wt. Lbs. Ea.
606	25–40–60	7	6⅜	3
615	110*–150	10	10	6
606BC	25–40–60	7	5⅝	3
615BC	100*–150	10	9¼	6

Wire is not furnished with these units.

*Use 1⅝-inch socket extension for 100-watt lamp.

HOLOPHANE HIBAY* LIGHTING UNITS

HEAVY DUTY UNITS FOR HIGH MOUNTING

Incandescent (500 to 1500 W.) or Mercury (400 W. and 1000 W.)

Holophane HIBAY Reflector

Where lighting units are mounted at great heights — such as are found in heavy industry, turbine rooms, etc. — the use of intensive and concentrating light distribution is a necessity, otherwise, a large portion of the light will be wasted on the upper side walls or intercepted by the mass of the machinery itself.

The Holophane HIBAY Unit was designed specifically for this application both from the standpoint of the illumination results and the mechanical ruggedness required. Some advantages are:

1. Three highly efficient prismatic reflectors from which to choose the distribution which gives the greatest usable illumination for any given room proportion.
2. Adjustments in lamp position in each make it possible to obtain intermediate settings between standard distributions.
3. Corrosive atmospheres will not permanently affect glass reflecting surfaces.
4. When dirty, the smooth-inside glass reflector is restored to efficiency by the use of ordinary washing compounds.
5. Aluminum cover is spun on and sealed over external prisms to add strength and insure easier maintenance. Hibay reflectors are safe even if accidentally cracked by impact. The glass will not tumble out of the cover.
6. A socket with nickel plated screw shell and contacts entirely outside the reflector, reduces socket troubles.
7. Steel tripod type holder and ring grips the reflector and assures the exact positioning of the lamp. They constitute a vital all-round safety device as well.
8. Steel parts are plated to resist corrosion.

Cat. No.	Lamp Wattage	Distribution	Dimens., In. Dia.	†Dpth	Shp.Wt. Lbs.Ea.
681-AL	300-500	Inten.	15¾	19⅝	21½
690-AL-HS‡	500	Conc.	21¾	27¾	47
691-AL-HS	750	Inten.	19¾	27⅝	32
692-AL-HS	1000 1500	Exten.	19¾	27⅝	35
693-AL-HS	400-A-H1 MV 400-E-H1 MV 400-J-H1 MV	Conc.	21¾	27¾	47
698-AL-HS	1000A-H-15 MV	Conc.	21¾	25¼	47

All above with ¾" stem and loop.

‡Special shorter overall fixture can be supplied on order. Specify if 500 or 1500 watt lamps are to be used.

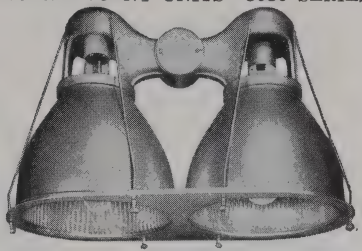
"M" designates mercury lamp. †Depth over rods.

Socket for 750 and 1000 watt bi-post lamp at extra cost.

★Reg. U.S. Pat. Off.

HOLOPHANE HIBAY* LIGHTING UNITS

COMBINATION MERCURY AND INCANDESCENT UNITS—5050 SERIES



Combination Unit

When it is desired to use a combination of mercury and incandescent lamps for the lighting of an area, it is best to place the complementing color sources close together so that the light will arrive at the work thoroughly mixed. This will eliminate areas of noticeable color contrast at the floor level, and reduce color shadows on the work.

Since it is not physically possible for two light sources to simultaneously occupy the focal point in a reflector — the point where reflector operates most efficiently — it is better to have two reflectors for maximum output. Joining them together in a simple yoke makes wiring, installation and maintenance simpler and cheaper.

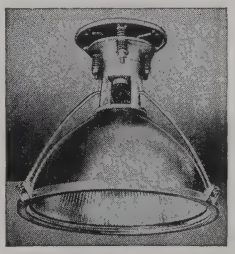
Cat. No.	Lamp Wattage	Shp.Wt. Lbs. Ea.
4040-AL	2 400 W. A-H1 Merc.	39½
4050-AL	1 400 W. A-H1 Merc. 1 500 W. Inc.	35½
4500-AL	2 500 W. Inc. or 2 400 W. E-H1 Merc. or 1 400 W. E-H1; 1 500 W. Inc.	34
4550-AL	1 400 W. E-H1 Merc. 1 750 W. Bi-post Inc.	34
5050-AL	1 750 W. Bi-post Inc. 1 400 W. A-H1 Merc.	36
5051-AL	2 400 W. J-H1 Merc.	36

Length 26¼"; width 13⅝"; depth 15⅝".

All Intensive Distribution. All tapped for ¾-inch pipe. Max. spacing 1.5.

Wire is not furnished with these units.

CRANELITE*



A common location for high mounting units in an industrial plant is above a craneway. With the massive bridge cranes now in use, this often results in the blocking of light from the area beneath the crane at the time and at the spot where the light is most needed. To eliminate this condition, it has been the practice to place reflectors on the under side of the crane. For this application Holophane has designed efficient, rugged lighting units which will withstand the whip and vibration produced by the crane movements and at the same time provide a concentrating distribution like the 690-AL-HS.

Cat. No.	Lamp Wattage	Spacing Centers	Dimens., In. Dia.	†Dpth.	Shp. Wt. Lbs. Ea.
674	300-500	15 ft.	14¾	15¾	26½
679-HS	400 W. E-H1 MV	20 ft.	23½	21	71½
694-HS	750‡-1000‡	20 ft.	23½	21	71½

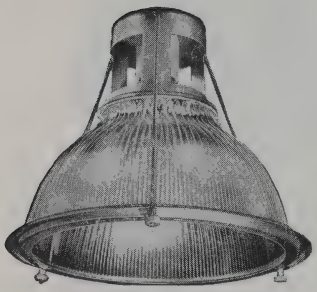
†Depth over rods.

‡Socket for 750 and 1000 watt bi-post lamp at extra cost.

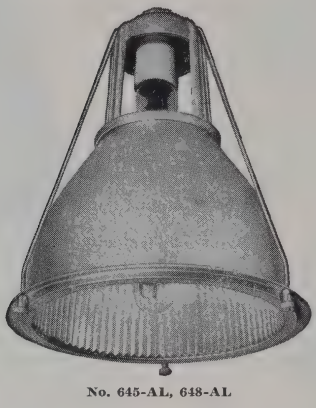
★Reg. U.S. Pat. Off.

HOLOPHANE LOBAY* LIGHTING UNITS

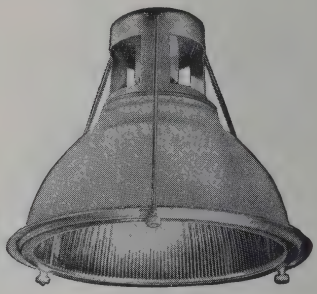
FOR INDUSTRIAL LOW BAY APPLICATIONS



Typical for Nos. 682, 685, 686, 684



No. 645-AL, 648-AL



Typical for Nos. 685-AL, 685-B-AL, etc.

In the case of low bay lighting the selection of equipment should be made on the basis of the best light distribution for each individual job. This, in turn, depends on the arrangement and types of machinery and also the location of aisles and columns. Very often, the requirements are not uniform over the entire floor, so that the most efficient method for putting the light where it is needed — to the degree it is needed — is to have units with different distributions from which to choose. The general appearance of the shop is improved if the units are mechanically similar; and there is further advantage that they may be interchanged, at any time, if the production line is rearranged.

When used without an aluminum cover, Holophane LOBAY reflectors afford the advantage of light transmission to the ceiling, which improves the lighted appearance of the interior.

The optical design of these reflectors includes a 30 degree shielding angle. This provision reduces direct glare.

Holophane Lobay units feature the choice of three reflectors with focusing, intensive and extensive distributions. The housings are identical and the reflectors may be interchanged, or covers added, at any time without the necessity of dismantling the electrical connections. The reflector is supported at the bottom in a holding ring and clamped up against the fitter by means of three threaded rods and nuts.

Fitters are of the skeleton type to permit free ventilation by chimney action. Socket shells are nickel plated to prevent lamps from sticking. Units can be adapted for use with 750 watt medium Bi-post lamp by substitution of the proper socket. Add suffix — B — for this series.

Nos. 645 and 648 are designed for use with the 400 watt mercury lamp. They are similar in appearance to the incandescent units, but the parts are not interchangeable with them.

684 (684-AL) being smaller than the 682, 685, and 686 line is not interchangeable with them.

Cat. No.	Lamp Wattage	Distribution	Dimens., Inches Diam.	Depth	Termination	Shpg. Wt. Lbs.
684	200–300†	Intensive	11⅞	11½		6½
684AL						7¼
682	300*–500	Extensive	13 13/16	12⅜	All	11¼
682AL						12
685	300*–500	Intensive	13 13/16	12⅜	Tapped for	12
685AL						12½
686	300*–500	Concentrating	13 13/16	12⅜	½ inch	11¾
686AL						12½
682B-AL	750	Extensive	13 13/16	12⅜	Pipe	12
685B-AL	Watt	Intensive	13 13/16	12⅜		12½
686B-AL	Bi-post	Concentrating	13 13/16	12⅜		12½
645	400 W. Merc. A-H1	Intensive	13 13/16	15⅝		14¼
645-AL						15
648	400 W. Merc. J-H1					14¼
648-AL						15

†300 watt 6 inch center medium base lamp. *Mogul base lamp. Wire is not furnished with these units.

Suffix AL added to catalog number indicates addition of aluminum cover to standard unit — for dirty locations.

★Reg. U.S. Pat. Off.

HOLOPHANE "WIDE-SPRED"★ UNITS

Nos. 830-832

Symmetric and Asymmetric units are available to take lamps from 100 to 500 watts. Spreads the light out at very wide angles using spacings of from 6 to 12 times the mounting height and maintains uniform illumination. The enclosed and gasketed construction keeps light output high by excluding dirt, dust, or weather. The clear double wall prismatic glass is restored to its original efficiency by washing.

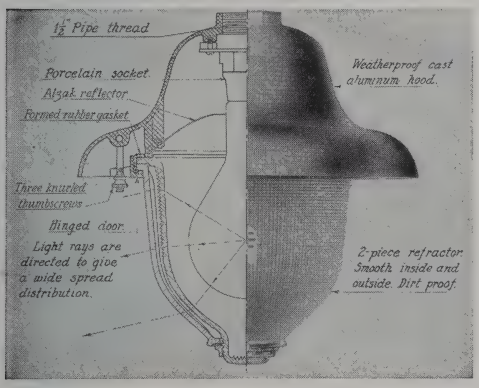
SMALL REFRACTOR UNITS

The Holophane line of refractors include selection of smaller units for use with lamps that range from 100w to 150w (Nos. 830 and 832). Where Nos. 830 or 832 are to be mounted on a wall, a special bracket — No. 0865 is available.

Cat. No.	Lamp Wattage	Distribution	Dimens., Inches Diam.	Depth
830	100*–150	Symmetric	8	10⅝
832	200	Widespread	9	12

Units are tapped for ¾-inch pipe.
Shipping weights—830, 6½ lbs.; 832, 9 lbs.
*Use 1⅜-inch socket extension.

LARGE REFRACTOR UNITS


1½" Pipe thread
Porcelain socket
Alzak reflector
Formed rubber gasket
Three knurled thumbscrews
Hinged door
Light rays are directed to give a wide spread distribution.
Weatherproof cast aluminum hood.
2-piece refractor Smooth inside and outside Dirt proof.

The outdoor Refractor units consist of a heavy cast aluminum hood holding a 2-piece bowl-type refractor. The sections of the Refractors are of heavy pressed glass nested together so that the exposed surfaces are smooth and dirt resisting. The hood is tapped to take a 1½-inch pipe-type bracket. Such a bracket, No. 0871 of high strength cast aluminum is available.

Cat. No.	Lamp Wattage	Distribution	Dimensions, Inches Diam.	Depth
04338	300*	Symmetric	12⅞	13¼
04333VF	500	Symmetric	16¼	16½
04377	300*	Asymmetric	12⅞	13¼
04179VF	500	Asymmetric	16¼	17½

*Medium base, 6-inch light center lamp.
★Reg. U.S. Pat. Off.

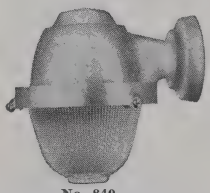
HOLOPHANE "WIDE-SPRED"★ UNITS

POSTOP* UNIT

No. 04340

"POSTOP"★ refractor unit No. 04340, slips over the top of a 1" pipe. Can be used on extended parts of guard rails, etc., or on pipes set in ground for roadways, walks, etc. Uses up to 150 watt lamp. Gives a wide spread asymmetric distribution. Available with overhanging hood (No. 04342) if desired.

INTEGRAL BRACKET UNIT



No. 840

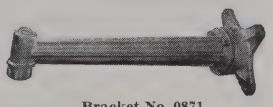
No. 840 integral bracket type unit combines a small Holophane WIDE-SPRED★ refractor with a cast aluminum hood terminating in an outlet box fitter for 3¼"–4" outlet box. Ideal for garage or back porch light for residences or over door light for industrial plants, public buildings or office buildings.

Cat. No.	Lamp Wattage	Dimensions, Inches Diameter	Depth	Shpg. Wt. Lbs. Ea.
840	100*–150	9½@	9 1/16	8
04340	100*–150	8¾	11¼	9¼
04342	100*–150	14⅛	11⅜	10

*Use socket extension with 100 watt lamp.
@Projection from back surface.

BRACKETS

No. 0865



Bracket No. 0871

No. 0865 cast aluminum bracket terminates at the fixture end in a ¾-inch male pipe thread. Designed to fit either 3¼ or 4-inch outlet boxes.

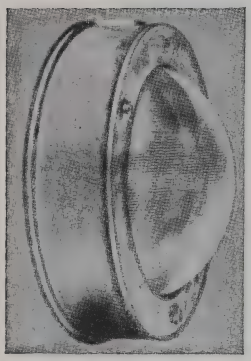
No. 0871 bracket terminates at fixture end in a 1½-inch male pipe thread. Assembly includes 4-inch diameter box threaded for entrance of ¾-inch pipe.

Cat. No.	Description
0865	Bracket, 7⅝" span
0871	Bracket, 20⅛" span‡

‡Overall length, 21 5/8 inches.
★Reg. U.S. Pat. Off.

HOLOPHANE WIDE-SPREAD ASYMMETRIC REFRACTOLENS*

RECESSED OR SURFACE MOUNTING



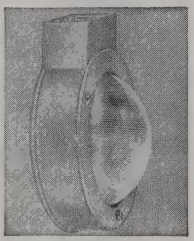
No. U-818

There has always existed a demand for an outdoor lighting unit which could be: (1) recessed in a wall or placed flat against it, (2) would spread the light outward at a wide angle in a fan-shaped pattern. The uses for such a unit include parking yards, entrances, shipping platforms, underpasses, where looks, performance and serviceability are important.

The basic unit of this line is the U-818 which uses a 200 watt medium base lamp. It has a round cast aluminum housing which may be mounted against a wall or recessed to a depth of 3½ inches. A cast door on the outer face carries a curved REFRACTOLENS consisting of an inner and outer prismatic lens, nested together, and so designed that the combination is substantially smooth on the inside and on the outside. The prisms are between the two pieces and protected by a dust-tight seal. Three captive bolts hold the door tightly against the gaskets of the housing and make the unit weather-proof and bug-tight.

Variations of this Unit Include:

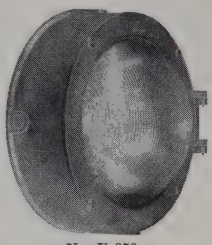
U-818-M where an enlargement of the top of the housing is provided so that the unit will accept a mogul base 300 watt lamp. The recessing dimension of U-818-M is 5¾ inches.



No. U-818-M

U-818-S is similar in detail with the U-818-M except that a series socket is substituted so that a 6000 lumen lamp may be used.

U-826 is similar in construction to the U-818 but smaller in size—for use with a 100 watt lamp. The recessing dimension is $3\frac{7}{16}$ inches.



No. U-850

The newest addition to this line is the No. U-850. The wide acceptance experienced with U-818 and the fine lighting results obtained paved the way to the design of this large size REFRACTOLENS unit. Similar to U-818 in construction and general appearance U-850 is made for larger lamps and to give a higher level of illumination. The unit has a 26″ diameter, is 6¾″ deep and accommodates 500, 750, 1000 watt incandescent lamps and the 400 watt E-H1 mercury lamp. Because of the large size of this unit, the front door holding the CONTROLENS is hinged to make servicing easy. The CONTROLENS is made of BOZAL* heat resisting glass to eliminate breakage due to heat from the large size lamps.

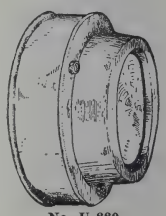
Some uses to which these units have been and may be applied are, large outdoor areas such as airport passenger loading, parking lots, outdoor swimming pools, used car lots, sewage disposal plants, playgrounds, industrial yards, protective fence lighting, prison wall lighting, outdoor craneways, hangar aprons, blast furnaces, coal storage, yacht basins, gasoline filling stations, oil storage tanks paper mill log handling, raw bulk material stock piles, locks and similar applications where a wide spread of light over large outdoor area is required.

AUTOMOBILE TEST CELL UNITS

Such units are designed for use in moderately severe vibration conditions in automobile test cells.

Two Distributions are Available

1. For wide spread of light enveloping the entire cell.
   a. U-818-TC identical with the U-818, except for a shock absorbing socket, uses 200 watt medium base lamp.
   b. U-818-M-TC uses 300 watt mogul base lamp.
2. For a concentrating beam unit where it is possible to prefocus the light on the motor or any part thereof, such as the U-880 containing a flat CONTROLENS (illustrated) uses a 200 or 300 watt medium base lamp.



No. U-880

Catalog Number	Lamp Wattage	Distribution	Ratio Spacing to Mtg. Hgt.	Dimensions, Inches Recessing Dimen.	Diam.	Dph.	Termination	Shipping Weight Ea. Lbs.
U-818	200	Widespread	4	3½″	16	6¾	Threaded	25
U-818-M	300†	Fan-Shaped	4	5¾″	16⅛*	9	for 1″	33
U-818-S	6000 series	Fan-Shaped	4	5¾″	16⅛*	9	pipe	34
U-818-TC	200	Widespread	4	3½″	16	6¾	on top	25
U-818-M-TC	300†	Fan-Shaped	4	5¾″	16⅛*	9	and	33
U-880	300**	Variable Intensive	Special	3½″	16	6⅞	back	28
U-850	500, 750, 1000 400 E-H1 Merc.	Widespread	4	6¾″	26	12½	Threaded for ¾″ pipe on top two 1-1⅛″ holes in back	87
U-826	100	Widespread	4	$3\frac{7}{16}$″	12⅝	5¾		17

†Mogul base lamp. *Add socket housing at top 3½″ high by 7″ wide.

**Medium base 6″ light center lamp.

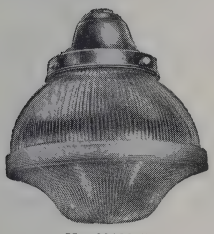
Wire is not furnished with these units. All units have three ½″ tapped holes in back for mounting.

★ Reg. U.S. Pat. Off.

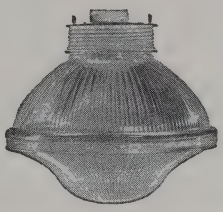
HOLOPHANE ENCLOSED LIGHTING UNITS

SYMMETRIC AND ASYMMETRIC

These enclosed units permit greater diffusion and completely shield the lamp from view. Also, the fact of enclosure enables these units to resist dust and dirt and are that much easier to maintain.

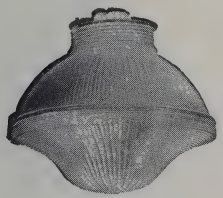


No. 02180-S

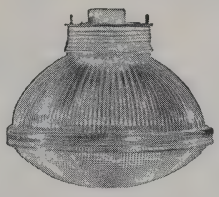


No. 02470-BC

Symmetric: Some of these job conditions can be met with units having a symmetric distribution (circle of light beneath the unit). These units are designated as Nos. 02460-BC, 02470-BC, 02180-S and 02490-S.



No. 02472-BC



No. 02476-BC; 02460-BC

Asymmetric: Other conditions are best treated with units having an asymmetric distribution (more light in some directions than in others). To mention just one of these: 1—odd shaped areas such as aisles or corridors, 2—work operations on vertical or sloping surfaces.

No. H-2076

No. H-2076 has an open bottom, but is similar in distribution to the 02476-BC. It is likewise used to light stock bins, book stacks, etc.

Units with suffix BC for 4-inch outlet box attachment. Units with suffix S for ½-inch pipe attachment.

From table below, select proper unit according to wattage, distribution, as may be required.

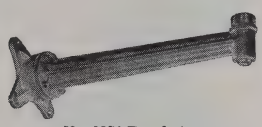
Cat. No.	Lamp Wattage	Dimens., In. Diam.	Dimens., In. Depth	Shpg. Wt. Lbs.
	Extensive Symmetric Distribution			
02180-S	200	12⅛	12	13¾
02490-S	300*	12⅛	12	14¼
02460-BC	100	9⅞	7 5/16	8
02470-BC	100†–150	9¾	8	7½
	Extensive Asymmetric Distribution			
02472-BC	100†–150	9¾	8	7½
	Intensive Asymmetric Distribution			
02476-BC	100†–150	9¾	7⅜	7½
	Asymmetric Distribution			
H-2076	100†–150	8¾	11⅜	6¼

*Medium base—6 inch light center lamp.

†Use with 1⅜ inch socket extension with 100 watt A-21 lamp.

HOLOPHANE OUTDOOR SUB-STATION LIGHT

No. 043386



No. 0871 Bracket

The safe and efficient operation of an outdoor sub-station requires that the disconnect switches and other important apparatus be well lighted. For example, it should be possible at all times to visually check whether the switches are open or closed. The high voltage involved necessitates clear vision of the live portions of the structure, especially when manual operation is performed with a stick.

Since the critical parts are located high in the structure, the lighting units should be located below and to one side, so as to illuminate that face of the apparatus which can be seen from the ground. To avoid the possibility of glare, the units are commonly mounted above the eye level and direct their rays upward.

The sub-station unit is ideally suited for this application. Its upward spread of light is sufficiently broad so that units can be arranged to supplement each other. This is important since the light from the unit nearest to a switch is often blocked by the intricate constructional details of the structure itself.

Choices in the refracting elements are available so that either a complete circle of light may be obtained for use in the center of a station (043386) or a fan-shaped spread for location around the periphery (043776).

The mechanical features of the unit include a cast aluminum body holding the light controlling Refractor which is protected from the weather by an outer blown-glass globe. The entire top assembly is hinged so that it can be thrown back for relamping. It is clamped in position against watertight and dust-tight gaskets, by means of three swivel bolts and nuts. The fixture body holds a prismatic diffusing element designed to utilize the downward light and distribute it evenly over the ground.

These units should be mounted on posts or brackets (0871) approximately 8 feet above the ground, so that they may be relamped without danger of coming in contact with the high tension equipment.

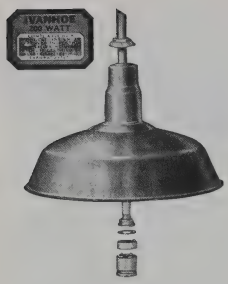
Cat. No.	Lamp Wattage	Spacing	Dimens., In. Diam.	Dimens., In. Depth	Shpg. Wt. Lbs.
	Inverted Wide Spread Distribution				
043386	300-500	Special	14¾	19*	32½
043776	300-500	Special	14¾	19*	34
0871	Bracket, 21 5/16 Span‡				6½

‡20 5/16 inches to center line of 1½-inch male thread and ¾ inch plugged female pipe thread.

*19 inches minimum; 19¾ inches maximum.

MILLER-IVANHOE REFLECTORS

Listed by Underwriters' Laboratories



Typical Assembly of Conduit Mounting Reflector

Type R Reflectors for conduit mounting when furnished complete with sockets (shown on following page) are ready for wiring. The reflector can be pushed up on the conduit making the socket easily accessible for wiring. Sockets are tapped for ½-inch conduit as standard, but can be supplied tapped for ¾-inch conduit upon request at no extra charge.

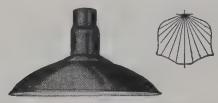
Type R Reflectors for outlet box mounting when furnished complete with sockets (shown on following page) are ready for wiring. Standard for attachment to 3¼-inch and 4-inch outlet boxes.

Disconnecting Type Reflectors can be attached to, or detached from, the holder without disturbing the wiring connections. Only a slight turn and upward pressure is required to take down or replace the complete reflector assembly. Type PX is standard for attachment to ½-inch conduit; Type OX is standard for attachment to 4-inch round or octagon outlet boxes.

Complete unit consists of any reflector listed below in combination with any of the socket assemblies listed in the following page.

Finish: Green porcelain enamel outside, white porcelain enamel inside, with exception of RERD which is white inside and out.

Reflectors Only

Type of Reflector	Cat. No.	List Price	Lamp Watts	Dimens. in Inches — Diameter	Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
RLM STANDARD DOME	REDD-100	$3.60	100	12	8	10	21
	REDD-150	3.90	150	14	9½	10	29
	REDD-200	4.85	200	16¼	10½	5	21
	REDD-500	6.10	300–500	18	11¾	5	25
	REDD-1000	9.10	750–1500	20¾	14½	2	16½
STANDARD ANGLE	REL-200	$4.65	200	12	14	8	26
	REL-500	5.75	300–500	14	15⅝	5	21
ELLIPTICAL ANGLE	REEL-150	$5.05	150	*8⅞x11⅛	11⅝	5	12
	REEL-200	6.00	200	*12¼ x15¾	14½	5	26
	REEL-500	11.65	300–500	*14 x17½	17¼	4	21
	REEL-1000	13.20	750–1000	*14⅜x20	20⅜	2	26
 STANDARD SHALLOW DOME	RED-100	$3.60	100	12¼	7½	10	15
	RED-150	3.90	150	14	8	10	25
	RED-200	4.85	200	15¼	9¼	5	17
	RED-500	6.10	300–500	18	11	4	32
DOME FOR SILVERED BOWL LAMPS	RERD-200	$6.45	200	18	10	5	25
	RERD-500	9.65	300–500	20½	10¾	2	15

*Dimensions are sizes of reflector openings.

MILLER-IVANHOE REFLECTOR SOCKETS

Listed by Underwriters' Laboratories

For Type R Conduit Mounting Reflectors

PR-1 Standard Medium Socket
SOCKET ONLY
List Price.....$1.70
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 3

PR-2 Shock-Absorbing Medium Socket
SOCKET ONLY
List Price.....$1.80
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 3½

PR-3 Pull Chain Medium Socket
SOCKET ONLY
List Price.....$3.00
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4½

PR-4 Standard Mogul Socket
SOCKET ONLY
List Price.....$2.40
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4

PR-5 Shock-Absorbing Mogul Socket
SOCKET ONLY
List Price.....$2.50
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4½

For Type R Outlet Box Mounting Reflectors

OR-1 Standard Medium Socket
SOCKET ONLY
List Price.....$1.70
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4

OR-2 Shock-Absorbing Medium Socket
SOCKET ONLY
List Price.....$1.80
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4½

OR-3 Pull Chain Medium Socket
SOCKET ONLY
List Price.....$3.00
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4½

OR-4 Standard Mogul Socket
SOCKET ONLY
List Price.....$2.40
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4

OR-5 Shock-Absorbing Mogul Socket
SOCKET ONLY
List Price.....$2.50
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 4½

For Disconnecting Type Reflectors—For Pendant Holders

PX-1 Standard Medium Socket
ASSEMBLY
List Price.....$3.30
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 5

PX-2 Shock-Absorbing Medium Socket
ASSEMBLY
List Price.....$3.40
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 6

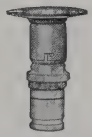
PX-3 Pull Chain Medium Socket
ASSEMBLY
List Price.....$4.60
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 6

PX-4 Standard Mogul Socket
ASSEMBLY
List Price.....$4.10
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 7

PX-5 Shock-Absorbing Mogul Socket
ASSEMBLY
List Price.....$4.20
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 7

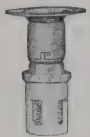
For Disconnecting Type Reflectors—For Outlet Box Holders

OX-1 Standard Medium Socket
ASSEMBLY
List Price.....$3.30
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 5

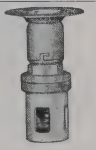


OX-2 Shock-Absorbing Medium Socket
ASSEMBLY
List Price.....$3.40
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 6

OX-3 Pull Chain Medium Socket
ASSEMBLY
List Price.....$4.60
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 6

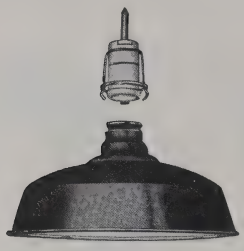


OX-4 Standard Mogul Socket
ASSEMBLY
List Price.....$4.10
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 7



OX-5 Shock-Absorbing Mogul Socket
ASSEMBLY
List Price.....$4.20
Standard Pkg. 5
Approx. Wt. Lbs., Std. Pkg. 7

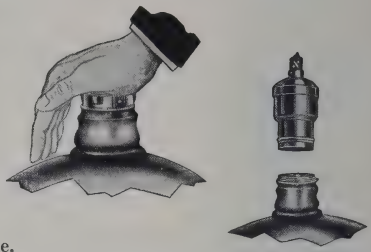
MILLER-IVANHOE 2¼" SHADE HOLDER REFLECTORS (B-HEEL TYPE)



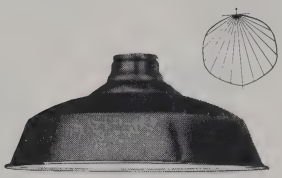
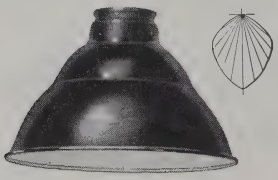
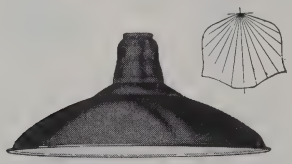
With Ivanhoe Shade Holder Reflectors it is possible to complete all wiring before hanging the reflector. The heel in the reflector neck makes it possible to use any of the different types of separable holders, for either the conduit or outlet box mounting; also the Snap-Lock holders for attaching the reflector directly to the socket.

B-Heel Reflector only can be attached to 2¼-inch Uno-shade holder.

Reflectors finished green enamel outside, white porcelain enamel inside.



Reflectors Only

Type of Reflector	Cat. No.	List Price	Lamp Watts	Dimens. in Inches Diam.	Dimens. in Inches Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
 RLM STANDARD DOME	**BEDD-100**	**$3.05**	100	12	5½	10	20
	BEDD-150	**3.55**	150	14	6¾	10	29
	BEDD-200	**4.20**	200	16¼	7⅞	5	20
 STANDARD BOWL	**BEB-100**	**$2.60**	100	8	5⅞	10	14
 STANDARD SHALLOW DOME	**BED- 60**	**$2.05**	40-50-50	10¼	3¼	10	14
	BED-100	**2.75**	100	12¼	4¾	10	18
	BED-150	**3.05**	150	14	6	10	24
	BED-200	**4.10**	200	15¼	6½	5	16

Holders and Sockets Only (For Use with Above Reflectors)

OB-10
Outlet Box Holder
For 4-Inch Boxes

Steel, Green Duco finish. Has medium-base porcelain receptacle. Std. Pkg., 5. Approx. Wt. Std. Pkg., 3½ lbs.

List Price **$2.05**

***PB-12**
Pendant Type Holder
For ½-Inch Conduit

Has medium-base porcelain socket. Std. Pkg., 5. Approx. Wt. Std. Pkg., 7 lbs.

List Price **$2.00**

Snap Lock Holders

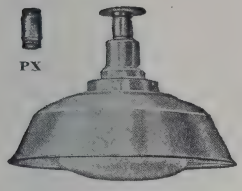
Type C for porcelain sockets. Std. Pkg., 10. Approx. Wt. Std. Pkg., 1 lb. List Price **$0.35**

Type D for brass-shell sockets. Std. Pkg., 10. Approx. Wt. Std. Pkg., 1 lb. List Price **$0.35**

*PB-12 Holder will be tapped for ¾-inch conduit on request at no extra charge. PB-12 holder can be supplied with shock absorbing socket at **$0.10** each list additional.

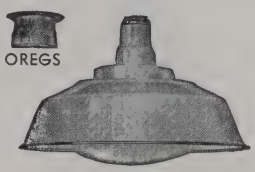
MILLER-IVANHOE GLASSTEEL DIFFUSERS—THREADED TYPE

Listed by Underwriters' Laboratories



OXEGS with OX Outlet Box Cover Disconnecting Top
PXEGS with PX Pendant Type Disconnecting Top

The Ivanhoe Glassteel Diffuser for industrial and commercial applications, is designed for high wattage C lamps. The white Genco glass globe, furnished as standard equipment, screws into the reflector and rests against an asbestos gasket, sealing the lamp and electrical connections within the globe and holder. In those locations where dust, lint or other foreign matters are prevalent, it makes possible a substantial savings in maintenance costs. White porcelain enamel inside and out.



OREGS with Outlet Box Cover Type Holder
PREGS with Pendant Type Holder

DISCONNECTING TYPE

Reflectors Complete with Socket Assemblies

Outlet Box Mtg. Catalog Number	Conduit Mtg. Catalog Number	List Price	Lamp Watts	Dimens. in Inches Diam.	Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
OXEGS-200	**PXEGS-200**	**$16.00**	150–200	18	13½	4	43
OXEGS-500	**PXEGS-500**	**21.70**	300–500	20¾	16	2	37

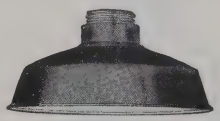
Reflectors Complete with Sockets

OREGS-200	**PREGS-200**	**$14.40**	150–200	18	11¾	4	41
OREGS-500	**PREGS-500**	**20.05**	300–500	20¾	13¼	2	35

MILLER-IVANHOE HEAVY-DUTY REFLECTORS—¾-Inch Threaded Neck

Ivanhoe Heavy-Duty Reflectors are designed for industrial locations, steel mills, foundries, etc., where it is necessary to have ruggedly constructed reflectors that will stand severe service conditions.

Complete unit consists of reflector in combination with any of the separable holders listed below. Reflector porcelain enamel—white inside—green outside.



HEDD Dome Type

HED Shallow Dome

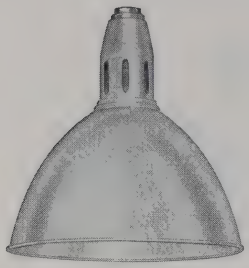
HOLDERS ONLY					REFLECTORS COMPLETE WITH HOLDER				
Pendant Type									
Cat. No.	Porcelain Socket	List Price	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.	Lamp Watts	Cat. No.	List Price	Cat. No.	List Price
PH-14	Medium	**$2.40**	10	9	75–100	**PHEDD-100-14**	**$5.95**	**PHED-100-14**	**$5.95**
					150	**PHEDD-150-14**	**6.20**		
					200	**PHEDD-200-14**	**7.20**	**PHED-200-14**	**7.20**
PH-24	Mogul	**$3.25**	10	12	300–500	**PHEDD-500-24**	**$9.25**	**PHED-500-24**	**$9.25**
Outlet Box Type for 4-inch Round or Octagon Outlet Boxes									
OH-12	Medium	**$2.40**	5	4	75–100	**OHEDD-100-12**	**$5.95**	**OHED-100-12**	**$5.95**
					150	**OHEDD-150-12**	**6.20**		
					200	**OHEDD-200-12**	**7.20**	**OHED-200-12**	**7.20**
OH-22	Mogul	**$3.25**	5	7	300–500	**OHEDD-500-22**	**$6.55**	**OHED-500-22**	**$9.25**

Pendant Holders (type PH) can be supplied with shock-absorbing sockets at **$0.10** list each additional. Add suffix letters "SA" to catalog number when shock-absorbing socket is desired.

Pendant type holders are tapped for ½-inch conduit but will be supplied tapped for ¾-inch conduit on request at no additional charge.

For standard package weights of reflectors complete with holders add weights of reflectors only to weights of holders.

MILLER-IVANHOE ALUMINUM MEDIUM AND HIGH BAY UNITS



Lighting Application—Particularly suited for areas where mounting height is 25 feet or more — for lighting crane bays, erecting shops, foundries, gymnasiums and similar places.

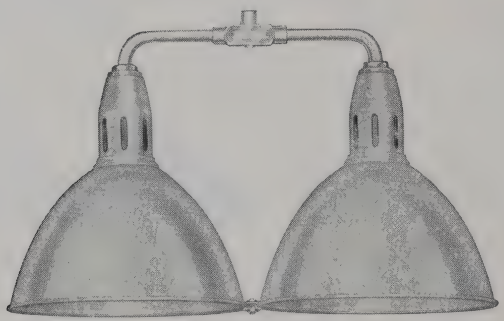
Construction—Made of .050 inch gauge aluminum — strong, light in weight. The ventilated socket cover lowers operating temperatures and greatly retards rate of depreciation due to accumulation of dust and dirt. In recent tests in an industrial plant over a ten-week period, it was found that the light output of non-ventilated reflectors dropped 39% whereas in the ventilated type the light loss was only 7%.

Finish—The Alzak aluminum finish that is applied to Ivanhoe reflectors provides a permanent sealed-in oxide coated surface impervious to most corrosive influences. This surface is of silky smoothness and flint-like hardness. It is non-porous and will not peel, chip, crack, or discolor under ordinary industrial conditions. It has high reflection efficiency and is easily cleaned with soap and water.

Cat. No.	Lamp Wattage	Dimens., Inches — Overall Depth	Dimens., Inches — Diameter Reflector Only	Standard Package — Quantity	Standard Package — Approx. Wt. Lbs.	List Price
PRAM-500	300–500	14⅝	16¼	4	18	**$15.95**
PRAM-1000	750–1000–1500	18⅝	18	4	29	**20.05**

Sockets tapped standard for ½-inch pipe — ¾-inch on request at no additional charge.

DOUBLE UNIT ASSEMBLY



Lighting Application—This reflector assembly is intended for the lighting of high bay areas where a single Incandescent lamp on ordinary spacing is not powerful enough to provide the proper intensities on the working level below. It eliminates close spacing of outlets and extra wiring required to obtain satisfactory intensities if single Incandescent reflectors were to be used. With this assembly, it is also possible to use a Mercury lamp in one reflector and a 750, 1000, or 1500-watt Incandescent lamp in the other reflector to obtain color correction or this double unit equipped with two 400-watt Mercury lamps can be staggered with a single high bay reflector with a large Incandescent lamp.

Construction—Consists of two .050 inch gauge aluminum reflectors on a conduit hanger arranged so that they can be handled as a single unit and operated from a single outlet. The assembly is made up of a "T" condulet for suspension with short runs of ½-inch conduit extending out each side horizontally to the reflector socket. Reflectors come complete with standard Ivanhoe socket assemblies, with the beads of the reflectors coming practically together at the center where they are caught in a clamp on the end of a ¼-inch rod extending from the "T" condulet above. The assembly is rigid and is easy to wire. Reflector socket covers are ventilated to retard rate of depreciation due to accumulation of dust and dirt.

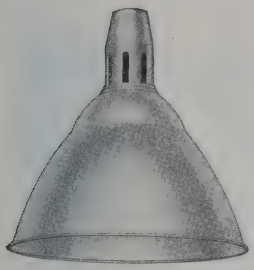
Reflectors are Alzak finished inside and out. This finish does not tarnish or discolor — is easy to clean and is not affected by heat, dirt or other atmospheric conditions. It provides excellent light output and control.

Cat. No.	Lamp Wattage	Dimensions, Inches — Overall Depth	Dimensions, Inches — Diameter Reflector Only	Dimensions, Inches — Overall Width Complete Assembly	Standard Package — Quantity	Standard Package — Approx. Wt. Lbs.	List Price
PRAM-2-1000	2-750-2-1000-2-1500	22	18	36½	1	12	**$47.50**

Sockets tapped standard for ½-inch pipe.

Note: Above units are available on special order with non-ventilated socket covers for outdoor application or where enclosing cover plates are to be used on them. Specify when desired this way.

MILLER-IVANHOE ALUMINUM MEDIUM AND HIGH BAY UNITS



These units meet the exacting demands of industry for the lighting of such areas as crane bays, foundries, assembly floors, or other locations where the lighting equipment must be mounted more than 25 feet above the floor. They are also suitable for outdoor areas.

Reflectors are made of aluminum with Alzak finish which produces excellent light output and control. The finish will not depreciate, is easy to clean, and is not affected by heat, dirt, or other atmospheric conditions.

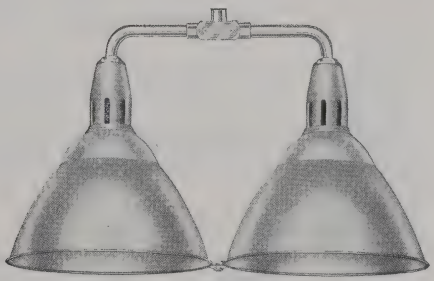
The two and three reflector assembly is intended for the lighting of high bay areas where a single Incandescent lamp on ordinary spacing is not powerful enough to provide the proper intensities on the working level below. It eliminates close spacing of outlets and extra wiring required to obtain satisfactory intensities if single Incandescent reflectors were to be used.

Consists of two or three Alzak finished aluminum reflectors on a conduit hanger arranged so that they can be handled as a single unit and operated from a single outlet. Reflectors come complete with standard Ivanhoe socket assemblies.

Catalog Number	Lamp Wattage	Dimensions, Inches: Diameter Reflector Only	Dimensions, Inches: Overall Depth	Standard Package: Quantity	Standard Package: Approx. Wt. Lbs.	List Price
PRAS-500	300–500	16¼	15¾	4	18	**$15.95**
PRAS-1000	750–1000–1500	18⅝	18½	4	29	**20.05**

Sockets tapped standard for ½-inch pipe — ¾-inch on request at no additional charge.

REFLECTOR ASSEMBLY COMPLETE WITH TWO OR THREE REFLECTORS



Catalog Number	Lamp Wattage	Overall Depth	Dimensions, Inches: Diameter Reflector Only	Dimensions, Inches: Width Complete Assembly	Standard Package: Quantity	Standard Package: Approx. Wt. Lbs.	List Price
PRAS-2-1000	2-750, 2-1000, 2-1500	22	18	36½	1	12	**$47.50**
PRAS-3-1000	3-750, 3-1000, 3-1500	23	18	37⅛	1	16	**79.20**

DEEP DOME TYPE REFLETORS

For the 400-watt Mercury Lamp

This porcelain enameled reflector provides a wide spread distribution of light similar to that of the RLM Dome. It is designed for the lighting of low bays with mounting heights down to 15 feet. The Genco glass diffusing band which surrounds the Mercury lamp, provides shielding from glare at all ordinary angles of vision.

Finish: Green porcelain enamel outside; white porcelain enamel inside.

Conduit Mounting Type with Reflector

Catalog Number	Lamp Watts	Dimensions in Inches: Diameter	Dimensions in Inches: Depth	Standard Package	Approx. Wt. Lbs. Std. Pkg.	List Price
PREDD-400	400	22	15	4	40	**$14.05**

MILLER-IVANHOE VAPORTIGHT UNITS

PENDANT AND OUTLET BOX TYPES

VR-60

All pendant type holders used on complete units as well as Holder and Globe Only Combinations are made of spun aluminum. They are tapped for ½-inch conduit but can be supplied tapped for ¾-inch conduit upon request, at no extra charge. They can be furnished with shock-absorbing sockets at **$0.10** list each, additional. Clear crystal globe furnished as standard.

VO-60

Catalog Number	List Price	Lamp Watts	Dimensions, In. Diam.	Dimensions, In. Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
VR-60	**$3.35**	40–100	4	8¼	10	25
VO-60	**3.35**	40–100	4¼	6¾	5	9

COMPLETE UNITS — Reflector, Holder and Globe

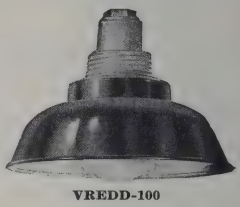
VREL-100

Angle Type

Pendant Type Catalog Number	List Price	Lamp Watts	Dimens., Inches Diam.	Dimens., Inches Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
VREL-100	**$10.50**	75–100	10	11	5	23

Deep Dome Type

VREDD-100	**9.65**	75–100	12	8½	5	22


VREDD-100

HEAVY-DUTY VAPORTIGHT UNITS — Holders with Globes Only

VR-200

Any of the units below can be supplied with shock-absorbing sockets at **$0.10** list each additional. When desired, add suffix letters "SA" to catalog number.

Pendant holders are tapped standard for ½-inch conduit but can be supplied tapped for ¾-inch conduit on request at no extra charge. All holders are of cast iron.

Holders with Globes Only

Catalog Number	List Price	Lamp Watts	Dimensions, Inches Diam.	Dimensions, Inches Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
VR-200	**$6.80**	150–200	5¼	11¼	10	40
VR-500	**9.00**	300–500	8¼	14⅜	5	45

COMPLETE UNITS — Reflector, Holder and Globe

VREL-150

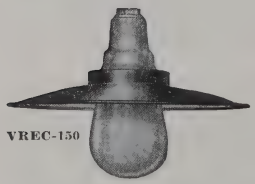
Angle Type

Catalog Number	List Price	Lamp Watts	Dimen., Inches Diam.	Dimen., Inches Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
VREL-150	**$11.65**	150–200	12½	14⅝	5	30

Deep Dome Type

VREDD-150	**$10.80**	150	14	9	5	30
VREDD-200	**13.25**	200	16¼	9¾	3	26
VREDD-500	**17.30**	300–500	18	13⅜	3	27

VREDD-150


VREC-150

Flat Cone Type

Catalog Number	List Price	Lamp Watts	Dimensions, In. Diam.	Dimensions, In. Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
VREC-150	**$10.80**	150–200	16	11½	3	21

Finish: Reflector porcelain enamel, green outside, white inside. Holders, green baked synthetic enamel.

MILLER-ADALET WEATHER-PROOF AND VAPOR-TIGHT FITTINGS AND FIXTURES

For mounting lugs, add "L" to Cat. No.; available with 5 hubs (see 6)

Type VA — standard pendent
Type AVA — economy pendent
Type VE, Type VLE, Type VBE — 4 tapped hubs with 3 removable plugs (see center spread)

Pipe Size	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price
					100 watt with globe and guard					
½	VA-217	$7.80	AVA-217	$5.50	VE-217	$7.90	VLE-2197	$14.20	VBE-21457	$14.40
¾	VA-317	7.80	AVA-317	5.50	VE-317	8.10	VLE-3197	14.60	VBE-31457	16.55
1					VE-417	9.05	VLE-4197	15.00	VBE-41457	15.00
					100 watt without guard					
½	VA-210	4.55	AVA-210	3.20	VE-210	4.60	VLE-2190	8.90	VBE-21450	8.90
¾	VA-310	4.70	AVA-310	3.20	VE-310	4.75	VLE-3190	9.05	VBE-31450	9.90
1					VE-410	5.80	VLE-4190	9.35	VBE-41450	9.45
					200 watt with globe and guard					
½	VA-227	9.65	AVA-227	7.80	VE-227	9.75	VLE-2297	16.55	VBE-22457	15.45
¾	VA-327	9.90	AVA-327	7.80	VE-327	9.90	VLE-3297	16.75	VBE-32457	16.75
1	VA-427	10.25			VE-427	10.85	VLE-4297	17.25	VBE-42457	17.30
					200 watt without guard					
½	VA-220	5.50	AVA-220	4.60	VE-220	5.60	VLE-2290	10.20	VBE-22450	9.80
¾	VA-320	5.70	AVA-320	4.60	VE-320	5.80	VLE-3290	10.20	VBE-32450	10.05
1	VA-420	6.00			VE-420	6.75	VLE-4290	10.40	VBE-42450	10.40

Available in ½", ¾", and 1" pipe sizes, with or without guard, 100 or 200 watt. For catalog number, use type letters with catalog numbers —i.e., VXA-217.

Type VA order as VXA
Type VLE order as VLA
Type VBE order as VBA
Type VED order as VXAD
Type VER order as VXAR
Type VERA order as VXARA

No. 6

For 5 hubs 4 plugs.

Type VFA — for outlet box mounting
Type VWB — for outlet box mounting
Type VWE, Type VWC — for conduit mounting
Type VWL — elbow reversible

Box Size	Catalog Number	List Price	Catalog Number	List Price	Pipe Size	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price
						100 watt with globe and guard					
3¼"	VFA-137	$7.50	VWB-217-A	$8.70	½	VWE-217	$8.25	VWC-217	$8.70	VWL-217	$8.70
4"	VFA-137-A	7.50	VWB-217	8.70	¾	VWE-317	8.55	VWC-317	9.00	VWL-317	8.90
						100 watt without guard					
3¼"	VFA-130	4.20	VWB-210-A	5.50	½	VWE-210	4.90	VWC-210	5.50	VWL-210	5.50
4"	VFA-130-A	4.20	VWB-210	5.50	¾	VWE-310	5.30	VWC-310	5.80	VWL-310	5.70
						200 watt with globe and guard					
3¼"	VFA-237	9.35	VWB-227-A	10.10	½	VWE-227	9.90	VWC-227	10.10	VWL-227	10.10
4"	VFA-237	9.35	VWB-227	10.10	¾	VWE-327	10.05	VWC-327	10.40	VWL-327	10.30
						200 watt without guard					
3¼"	VFA-230	5.20	VWB-220-A	6.15	½	VWE-220	5.80	VWC-220	6.00	VWL-220	5.95
4"	VFA-230	5.20	VWB-220	6.15	¾	VWE-320	5.95	VWC-320	6.15	VWL-320	6.15

All junction-box-type fittings have **four** tapped hubs. Furnished as "E" fittings. But, by simply removing the plugs provided with each fitting, all these hub arrangements can be made with the same fitting. No inconvenience. Also available with all these features, plus a back hub. See "A," and panel No. 6.

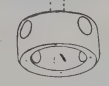
For "E" Fitting

For "C" Fitting

For "L" Fitting

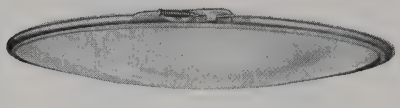
For "T" Fitting

For "X" Fitting


For "A" Fitting

MILLER-IVANHOE PROTECTIVE COVERS

HINGED TYPE



Ivanhoe covers provide an inexpensive yet effective way to protect the inner reflecting surfaces of reflectors, sockets, and lamps. In industrial location where there is an excessive amount of dirt present, or in outside locations where it is essential to protect the lamp from the weather, maintenance costs can be reduced to a minimum, by using Ivanhoe protective covers. These covers can be attached quickly and easily to RLM dome, bowl, angle, or high mounting reflectors by slipping the clamping ring over the head of the reflector. An asbestos gasket seals the assembly. Clear glass convex covers are furnished as standard.

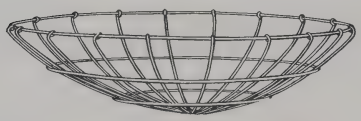
Standard package, 5.

Cat. No.	List Price	Fits Reflec. Diam., In.	Dimensions in Inches Diam.	Depth	Wt. Lbs. Std. Pkg.
KS-12	$5.80	12	12¼	1¼	15
KS-14	7.25	14	14¼	1½	20
KS-16	8.75	16¼	16½	1¾	30
KS-18	9.55	18	18¼	2	40
KS-18 Etched	10.90	18	18¼	2	40
KS-20	12.00	20¾	21	2¼	50
KS-20 Etched	13.40	20¾	21	2¼	50

Note: Protective Cover KS-20 does not have a clamping ring for attaching to reflector. Instead it has a flange with set screw for holding in place on reflector.

IVANHOE WIRE GUARDS

CLAMP-ON TYPE GUARD

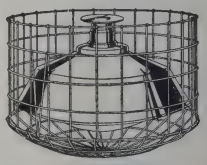


This guard clamps on to the outer rim of the reflector and will fit all standard type reflectors in the sizes listed below. It is sturdily constructed and will withstand hard knocks and jars. The heavy-gauge wire will resist corrosion.

Cat. No.	List Price	Fits Reflector Diam., Inches	Dimensions in Inches Diam.	Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
WGC-10	$3.35	10	10½	2½	10	4
WGC-12	4.20	12	12½	3	10	5
WGC-14	5.05	14	14½	3½	10	6
WGC-16	5.80	16¼	16¾	4½	10	7
WGC-18	6.95	18	18½	5½	10	8
WGC-20	8.40	20¾	20¾	6	10	11
WGC-24	13.20	24	24	7	10	14

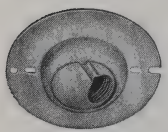
BASKET TYPE GUARDS

This type of guard encloses the entire unit and fastens to the ceiling with two wood screws. The hinged bottom section permits cleaning and relamping. It is especially adapted for use with the Glassteel Diffuser in gymnasiums, indoor courts.



Cat. No.	List Price	Fits Reflector Diam., Inches	Dimensions in Inches Diam.	Depth	Std. Pkg.	Approx. Wt. Lbs. Std. Pkg.
WGB-10	$12.60	10	14	10	10	8
WGB-12	13.20	12	16	12	10	10
WGB-14	14.00	14	18	14	10	12
WGB-16	16.75	16¼	20	16	10	14
WGB-18	19.55	18	22	18	10	16
WGB-20	22.30	20¾	24	18	10	22
WGB-24	27.90	24	28	18	10	27

IVANHOE OUTLET BOX COVER ALIGNER



The cast-iron ball, suspended between two plates, moves freely and allows the fixture to hang plumb when boxes are at an angle up to 45 degrees. Designed for use on standard 4-inch round or octagon outlet boxes. The ball is tapped for ½-inch conduit. Galvanized.

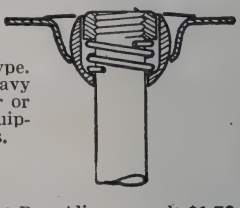
Standard package, 10.

Price, No. AC-941 Outlet Box Aligner....each **$0.85**

IVANHOE SHOCK-ABSORBING OUTLET BOX COVER ALIGNER

This aligner is identical with AC-941 with the exception that it is of the shock-absorbing type. As illustrated, a heavy spring floats the reflector or fitting, protecting the equipment from shocks or jars.

Standard package, 10.



Price, No. AC-1041 Outlet Box Aligner..each **$1.70**

STEBER REFLECTORS

Graytone Ultranamel—Rich Green Porcelain Enamel

Graytone Ultranamel — a baked-on synthetic enamel — tough, durable, and weatherproof — originated and used exclusively by Steber for finishing reflectors, coverlites, yardlights and floodlights. Withstands bending, dropping, and hard usage, yet has rich lustrous gray tone, somewhat like hammered silver.

Rich Green Porcelain Enamel — Finest quality vitreous enamel, rich in tone, neutral in color, assures years of satisfactory service and maintained efficiency.

FOR 2¼-INCH SHADEHOLDER

Shallow Dome

Shallow Dome

Graytone Ultranamel Cat. No.	Pkg. Wt. Lbs.	Price Each	Diam.	Watts	Std. Pkg.	Rich Green Porcelain Enamel Cat. No.	Pkg. Wt. Lbs.	Price Each
610	5	$0.75	10	25– 60	10	710	7½	$1.26
612	8	.85	12	75–100	10	712	11	1.42
614	11	1.10	14	150	10	714	15	1.88
616	16	1.65	16	200	10	716	18	2.36
Standard Dome								
812	10	1.45	12	75–100	10	912	15	2.55
814	19	1.75	14	150	70	914	25	3.00
816	21	2.15	16	200	10	916	32	3.60

Standard Dome

LOKFAST TYPE FOR ½-INCH CONDUIT MOUNTING

Listed by Underwriters' Laboratories, Inc.

Easily removable type reflectors; one-piece cast aluminum socket hood for ½-inch vertical or horizontal conduit mounting; designed for easy installation and servicing; rotate one-quarter turn and reflector locks securely in hood; easily detached.

Shallow Dome

Shallow Dome

Graytone Ultranamel Cat. No.		Pkg. Wt. Lbs.	Price Each	Diam.	Watts	Std. Pkg.	Rich Green Porcelain Enamel Cat. No.		Pkg. Wt. Lbs.	Price Each
1212	V or H	16	$2.75	12	75–100	10	1312	V or H	18	$3.90
1214	V or H	20	2.95	14	150	10	1314	V or H	26	4.45
1216	V or H	12	3.30	16	200	5	1316	V or H	16	5.00
1218M	V or H	20	5.10	18	*300–500	5	1318M	V or H	33	7.25
Standard Dome										
1412	V or H	18	3.10	12	75–100	10	1512	V or H	22	4.15
1414	V or H	24	3.50	14	150	10	1514	V or H	39	4.70
1416	V or H	11	3.85	16	200	5	1516	V or H	13	5.15
1418M	V or H	24	5.75	18	*300–500	5	1518M	V or H	28	7.50

Standard Dome

*Mogul Base Socket. 18" Shallow Dome and Standard Dome reflectors are furnished with separable threaded neck.

ANGLE REFLECTORS

For 2¼-inch Shadeholder

Graytone Ultranamel Cat. No.	Pkg. Wt. Lbs.	Price Each	Diam.	Watts	Std. Pkg.	Rich Green Porcelain Enamel Cat. No.	Pkg. Wt. Lbs.	Price Each
1008	6½	$1.50	8	60–100	10	1108	7½	$2.20
1010	13	2.00	10	150–200	10	1110	18	3.00

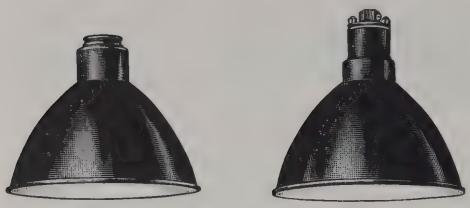
LOKFAST TYPE

For ½-inch Conduit Mounting

2008	V or H	12	2.75	8	60–100	10	2108	V or H	17	3.40
2010	V or H	17	3.10	10	150–200	10	2110	V or H	20	3.90

STEBER REFLECTORS

DEEP BOWL UNITS



For 2¼-Inch Shadeholder

Cat. No.	Diam. In.	Lamp Watts	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
		Graytone Ultranamel Finish			
1057	7½	60-100	10	7	**$1.55**
1059	10½	150-300	10	12	**1.95**
		Rich Green Porcelain Enamel			
1157	7½	60-100	10	8	**2.25**
1159	10½	150-300	10	14	**3.30**

Lokfast Detachable Socket Type for ½-Inch Conduit Mounting

		Graytone Ultranamel Finish			
2057	7½	60-100	10	11	**2.75**
2059	10½	150-300	10	15	**3.10**
		Rich Green Porcelain Enamel			
2157	7½	60-100	10	13	**3.90**
2159	10½	150-300	10	18	**4.45**

SOCKET ATTACHMENT UNITS

For direct attachment to sockets. RWP types have improved rigid shadeholder welded to reflector. Holds reflector firmly in position. Fits weatherproof, composition, and porcelain sockets, also porcelain receptacles, without separate shadeholders.

One-Piece Shadeholder Attached Shallow Dome

Cat. No.	Diam. In.	Lamp Watts	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
		Graytone Ultranamel Finish			
RWP-10	10	60	10	5	**$0.90**
RWP-12	12	100	10	9	**1.05**
RWP-14	14	150	10	13½	**1.35**
RWP-16	16	200	10	17½	**1.75**

Standard Dome

		Graytone Ultranamel Finish			
RWP-412	12	100	10	12½	**1.75**
RWP-414	14	150	10	17	**2.00**
RWP-416	16	200	5	11½	**2.40**

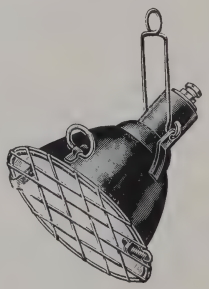
STEBER CARGOLITES

Heavy duty portable lights for lighting ships' holds, stowing cargo, use on docks and piers, excavation work, construction projects, loading planes and freight cars, ship and plane repairs and construction, storage yards and many other applications.

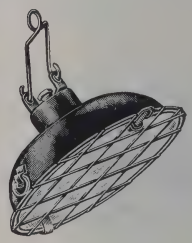
Reflectors are made of heavy gauge steel. The rugged guards are hinged and have a simple but positive locking device; heavy cross woven wires are electrically welded. The guard ring encircles the beaded rim of the reflector and acts as a bumper to protect both reflector and lamps from damage in rough service. Heavy wire hanger has a 2-inch loop for suspending Cargolite by a rope. Two additional hanger loops are welded to opposite sides of reflector bowl, permitting unit to be tilted or tied in any position.

Multiple cluster types, with one-piece reflector, provide continuous operation in the event of individual lamp failure. Steber clusters are easily removable for wiring. An added feature of the Steber cluster is its relatively lower internal temperature —at the most critical point—where service leads are attached. An approved weatherproof gland and gasketed cluster make these units weatherproof.

Reflectors are finished in Steber Ultranamel: Black outside, and glossy white inside. Guards and hangers are plated.



No. 5015



No. 5016

Single Lamp — Mogul Socket

Cat. No.	Lamp Outlets	Lamp Watts	Refl. Diam.	Std. Pkg. Qty.	Std. Pkg. Wt.	Price Each
5015-1	1	300–500	15½	2	18	**$16.50**
5017-1	1	750–1000	17½	2	30	**19.75**
5418-1	1	300–500	18	3	28	**13.20**
		16-Inch Four-Light Cluster				
5016-4	4	60–100	16	2	19	**16.00**
5016-5	5	60–100	16	2	20	**16.50**
		18-Inch Four and Five-Light Clusters				
		(Approved by U. S. Coast Guard for Merchant Vessels)				
5018-4	4	60–150	18	2	28	**20.00**
5018-5	5	60–150	18	2	28	**21.00**

No. 5018

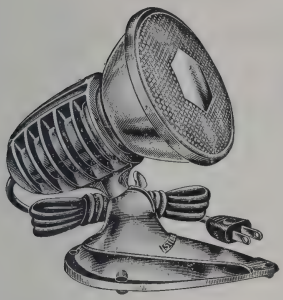
CORD SETS

Cord sets not included, but can be furnished as required. Prices quoted on request.

STEBER UTILITES

Listed by Underwriters' Laboratories, Inc.

No. 1 UTILITE



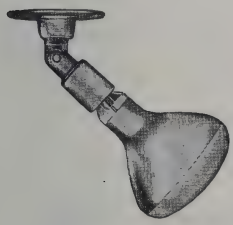
An all-purpose Utilite of cast aluminum for indoor or outdoor service. Heat radiating fins quickly dissipates heat generated by lamp. Flexible Neoprene gasket fits permanently into recess in lampholder, assuring a water tight seal between socket and lamp. Rubber feet prevent marring of finished surfaces. Base mounting holes for permanent attachment to any flat surface or for mounting directly to 4-inch outlet box. Adjustable 360 degrees horizontally and 180 degrees vertically and held in any desired position by thumb screw. Approved cord and plug. One in a carton. Standard package 6; weight 10 lbs.

Price, No. **1** Utilite Lampholders.....each **$4.75**

No. 7 SWIVEL-TYPE UTILITE

Designed for ease of adjustment to any desired position — 360 degrees horizontal, 180 degrees vertical—without damage to conductors. Swivels freely and holds position without set screws. Approved cord and plug and porcelain socket. Can be mounted permanently on flat surfaces or directly to 4-inch outlet box. Standard package, 12; weight, 14½ lbs.

Price, No. **7** Swivel Utilite.....each **$3.35**



No. 8 SWIVEL-TYPE UTILITE

Swivel type Utilite for attachment directly to 3¼ or 4-inch outlet box. Substantial cast aluminum mounting base. Flexible connecting leads. Swivel construction same as No. 7. Individually packed; standard package, 12; weight 9 lbs.

Price, No. **8** Swivel Utilite.....each **$2.40**

No. 6 SOCKET ADAPTER-TYPE SWIVEL UTILITE

Converts existing lamp receptacles into swivel type Lampholders. Simply screws into any medium base socket. Accommodates PAR-38 or R-40 lamps. Thumb screw for locking in position. Individually packed. Standard package, 20; weight 10 lbs.

Price, No. **6** Socket Adapter Type Swivel Utilite .....each **$2.05**

STEBER UTILITES

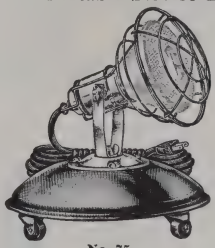
Listed by Underwriters' Laboratories, Inc.

PAR-38 AND R-40 LAMPHOLDERS

Utilites are adjustable holders for PAR-38 Projector Flood or Spot Lamps, R-40 Reflector Flood or Spot Lamps, R40/4, R40/9 and R40/10 Infrared and Heat Drying Lamps.

HANDY MOBILE UTILITE

Portable Service Light for PAR-38 Lamp



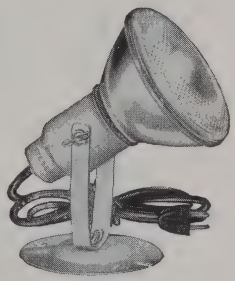
No. 75

Consists of No. 2 Utilite mounted on 10½-inch circular vibration-proof base with casters. A handy rolling light for garages and service stations.

Finished in Graytone Ultranamel. Complete with sturdy wire lamp guard and 20-ft. service cord and plug. Lamp not included.

Cat. No.	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
75	3	16	**$7.50**

No. 2 UTILITE



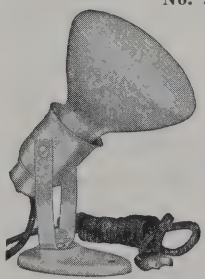
Weatherproof outdoor holder for use with PAR-38 lamps, equipped with flat round gasket to permit watertight fit between lamp and holder. Made of drawn steel with weatherproof finish, and special means of dissipating heat at socket terminals. Universal adjustment. Mounted on 4¼-inch base plate punched for wall bracket or outlet box mounting. Approved cord and plug.

No. 2-S same as No. 2 Utilite except that 6-inch ground spike for ground mounting is furnished instead of round base plate.

Cat. No.	Mounting Provision	Std. Pkg.	Pkg. Wt.	Price Each
2	Base plate for surface or outlet box mounting.....	12	12	**$2.35**
2-O	Same as No. 2 but without cord and plug.....	12	9	**2.00**
2-SO	Base plate and ground spike	12	12	**2.50**
2-S	Ground spike	12	12	**2.40**

Lamp not included. Carton quantity, 1.

No. 3 UTILITE



For indoor use with R-40 lamps for displays and window lighting, or for infrared, heat and sun lamps. Universal adjustment. Holes provided for permanent attachment to any flat surface. Approved cord and plug.

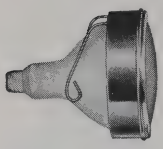
Lamp not included.

Carton quantity, 1.

Cat. No.	Mounting Provision	Std. Pkg.	Pkg. Wt.	Price Each
3	Cast base—plain finish	12	14	**$2.25**
3-C	Cast base—chrome finish....	12	14	**4.50**

STEBER COLOR EQUIPMENT

U-40 UTILITE LENS HOLDER



This improved U-40 lens has a deeper collar for increased efficiency. It is equipped with sturdy spring clip and is easily attached to either PAR-38 or R-40 lamp. U-40 is available with heat resisting lenses in amber, blue, green and red, as listed below.

Cat. No.	Description	Std. Pkg.	Pkg. Wt.	Price Each
U-40	Lens Holder	12	5	**$0.70**

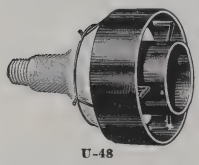
UTILITE HEAT RESISTING COLOR LENSES

These lenses are heat resisting and may be used with safety indoors with 300 watt R-40 lamps. For outdoor use, these lenses will withstand all atmospheric conditions, even where severe changes in temperature may take place.

U-45

Cat. No.	Description	Std. Pkg.	Pkg. Wt.	Price Each
U-45	Heat Resisting Lens only in standard colors (use suffix A, R, G, B to denote amber, red, green or blue)	36	15	**$0.90**

UTILITE CONCENTRIC LOUVER



U-48

Consists of two concentric steel bands arranged to intercept horizontal light and provide cut-off. U-48 type is attached to lamp by wire clips secured by flexible wire wound around lamp. Furnished in mat black for concentrated light or mat white for greater diffusion. Add suffix B or W to catalog numbers to denote black or white. U-49 baffle louver is available, fits into the U-40 holder with colored lens.

Cat. No.	Description	Std. Pkg.	Pkg. Wt.	Price Each
U-48	Concentric Louver	6	3½	**$0.75**
U-49	Baffle Louver	6	3½	**.75**

UTILITE WIRE GUARDS

Utilite Guard No. U-60 affords protection against lamp breakage. Clamp arrangement permits quick attachment to Steber Nos. 2, 2-S, 2-SO, 3 and 3-C Utilites.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
U-60	Wire Guard only	6	6	4	**$1.00**

UTILITE COMBINATIONS

Lens Holder and Heat Resisting Lenses

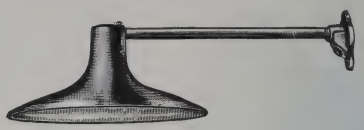
Cat. No.	Description	Std. Pkg.	Pkg. Wt.	Price Each
U-46	U-40 Lens Holder with 1 Heat Resisting Lens*	6	5	**$1.60**
U-47	Lens Holder and 4 assorted Heat Resisting Lens in standard colors	6	10	**4.25**

*Use suffix A, R, G, B to denote amber, red, green or blue.

STEBER YARDLIGHTS

No. HA-14 STURDILITE

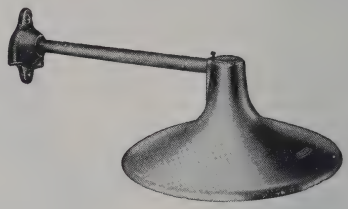
Cast Aluminum Reflector—UL Listed



Reflector and neck die cast in one piece. Will withstand any wind or weather. 15-inch rigid pipe. Porcelain socket, completely wired with No. 18 standard wire. Four point mounting wall flange is cast and has ½-inch 2-pole insulating bushings. Individually packed. Graytone Ultranamel outside — white inside.

Cat. No.	Reflector Diameter	Lamp Watts	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
HA-14	14	150	1	3	13	**$6.30**

No. HA-15 STURDILITE



For installation not requiring the junction box fitting supplied with the HA-14 Sturdilite. This unit has all the outstanding features of the HA-14 except that it is furnished with a heavy duty conventional mounting flange for open wiring. Insulating bushings to protect entrance leads and Vibresist gasket for longer lamp life.

Cat. No.	Reflector Diameter	Lamp Watts	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
HA-15	14	150	1	3	13	**$6.00**

VP SERIES YARDLIGHT

Porcelain Enamel Reflectors

Reflector of high grade porcelain enamel, green finish. Underwriters approved; meets REA specifications. 15-inch rigid pipe arm. Cast hood and wall flange. Flange is provided with insulated bushings for open wiring. Completely wired with No. 18 stranded wire. Individually packed.

Cat. No.	Reflector Diameter	Lamp Watts	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
VP-12	12	100	1	5	17	**$4.95**
VP-14	14	150	1	5	20	**5.30**

STEBER YARDLIGHTS

GOOSENECK TYPE YARDLIGHT

Constructed of ½-inch thinwall conduit, ends swaged and threaded to ⅜-inch pipe size, heavy drawn steel flange for wall or 4-inch outlet box mounting, steel reflector in Graytone Ultranamel finish, complete with socket, wire and screws.

Cat. No.	Diam. Inches	Watts	Carton	Std. Pkg.	Pkg. Wt.	Price Each
BR-10	10	60	1	10	20	$2.60
BR-12	12	100	1	10	24	2.85
BR-14	14	150	1	10	28	3.20

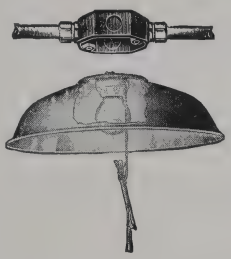
STEBER COVERLITES

FOR OUTLET BOX MOUNTING

Listed by Underwriters' Laboratories, Inc.

Steber Coverlites are low cost reflector assemblies that save installation time — reflectors are steel with top, which serves as the outlet box cover, pierced to fit both 3¼ and 4-inch standard or shallow boxes. Outlet boxes are not included.

Particularly adapted to low ceiling installation. Graytone Ultranamel finish, white inside.



With Pull Chain Sockets

Cat. No.	Diameter Inches	Lamp Watts	Std. Pkg.	Std. Pkg. Wt. Lbs.	Price Each
C-112PC	12	100	10	14½	$2.00
C-114PC	14	150	10	20½	2.30
C-116PC	16	200	5	12	2.85

STEBER WIRE GUARDS

For Reflectors and Coverlites

Heavy gauge, electrically welded, plated steel wire. Double ring, drawn tight over reflector bead by means of one machine screw, facilitates cleaning and relamping.

Reflector Diameter	Cat. No.	Depth Inches	Price Each
For 8" Reflector	G- 8	2¼	$1.90
For 10" Reflector	G-10	3	2.75
For 12" Reflector	G-12	3½	3.30
For 14" Reflector	G-14	4⅛	3.85
For 16" Reflector	G-16	4¾	4.10
For 18" Reflector	G-18	5¼	4.65

STEBER SHADEHOLDERS

Rigid one-piece design holds reflector firmly in true vertical position. Plated steel.

N-21

2¼-Inch Shadeholder Type

For mounting directly on weatherproof, composition or porcelain sockets and receptacles.

Cat. No.	Std. Pkg.	Pkg. Wt.	Price Ea.
N 21	50	5 Lbs.	$0.15

N-30

"Uno" Screw Thread Type

Fits standard brass or steel shell sockets, also bakelite sockets and receptacle.

N 30	50	4 Lbs.	.12

STEBER HAYMOW GLASS ENCLOSED LIGHTING UNITS

FOR OUTLET BOX OR ½-INCH CONDUIT MOUNTING

With combination cover which fits 3¼ or 4-inch standard outlet box, or with vertical or horizontal caps for ½-inch conduit mounting. Graytone Ultranamel finish — furnished complete with reflector, if desired — recommended for haymow, milk houses, barns, dairies, and general farm use.

No. HO

No. HV

No. HH

For Mounting on 3¼ or 4-Inch Outlet Boxes, Complete with Globe

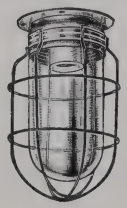
Cat. No.	Lamp Watts	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
HO	60 to 100	12	23	$2.30

With ½-Inch Vertical Conduit Fitting, Complete with Globe

HV	60 to 100	12	22	2.30

With ½-Inch Horizontal Conduit Fitting, Complete with Globe

HH	60 to 100	12	23	2.40



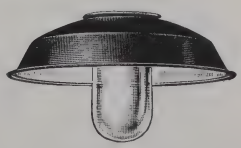
No. HOG

For Units Complete with Guard

Cat. No.	Lamp Watts	Std. Pkg.	Pkg. Wt.	Price Each
HOG	60-100	12	25	$3.10
HVG	60-100	12	24	3.10
HHG	60-100	12	28	3.20

With 12-Inch Ultranamel Reflector

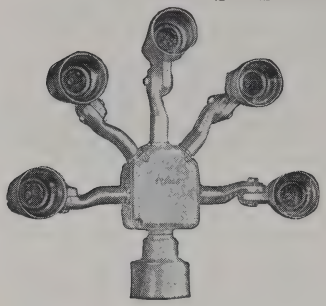
Cat. No.	Wt. Lbs. Std. Pkg.	Price Each
HOR	44	$3.25
HVR	40	3.35
HHR	42	3.50



Standard package, 12.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
HGG	7-inch Glass Globe only	12	20	$0.85
HR	12-inch Reflector only	12	12	1.05
HWG	Guard only	12	6	.85

STEBERLITE BASIC UNITS AND ACCESSORIES



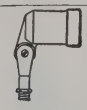
LAMP NOT INCLUDED

Listed below is a short line of versatile fittings in which the three basic units alone can handle nearly all problems of general or supplementary floodlighting. The smartly designed accessories add many more variations for complete floodlighting needs.

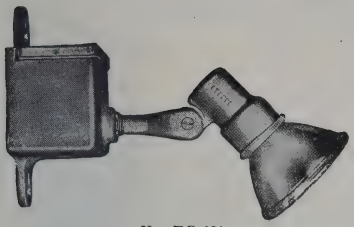
The Steberlite features: Long life; Enclosed wiring; Weatherproof construction; Compact size; Quick and easy hook-up; Minimum heat generation.

Shown at left is cluster of five Steberlites mounted to Adapter Box and Steber pole Slip Fitter.

Steberlite Basic Unit No. S300

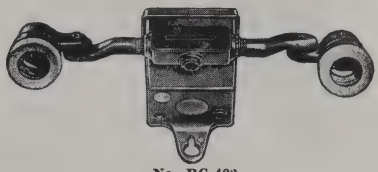
	Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	List Price
	S300	Lamp Holder, cast aluminum, completely wired. Mounting nipple threaded ½ inch with lock nut. Special silicone gasket gives complete weather protection with either PAR-38 or R-40 lamps	12	10½	**$3.00**
	**S350**	Mogul Base Lampholder. Cast aluminum, completely wired. Mounting nipple threaded ½ inch with locknut. Special Silicone rubber gasket gives complete weather protection for R-40 Mogul Base lamps	6	9	**6.80**
	S311	Adapter Fitting. Cast aluminum, with junction box cover. Five openings tapped ½-inch female and two ½-inch male plugs furnished to provide closures for unused openings	12	5	**1.50**
	S301	Adapter Box with cover, cast aluminum. Tapped ½ inch to mount up to five S300 units. Furnished with 3 threaded plug closures. Adapter Box tapped ½ inch female to mount on ½-inch conduit or Pole Fitter No. S302	6	6	**3.00**
	S302	Pole Slip Fitter, cast iron—fits either 1½ or 2-inch pipe. Tapped ½ inch to accommodate S300 unit. All Pole Slip Fitters furnished with ½-inch running thread to take S301	6	6	**1.90**
	S303	4-inch Outlet Box Cover, cast iron. Top opening tapped ½ inch for S300 or ½-inch Conduit extension	12	3	**.52**
	C58	Combination Pole or wall mounting Flange for open wiring. Sturdy cast metal, heavily coated with a rust resisting finish. Insulated bushings to protect entrance leads. Threaded for ½ inch conduit and equipped with set screws	12	10	**.45**
	C5	Patented combination pole or wall mounting Flange. Junction box type. Sturdy casting with removable cover and gasket. ½-inch conduit entrance at bottom and furnished with two-hole bushing. Set screw for fixture alignment. Rust proof finish	12	12	**1.30**
	C8	½-inch Slip Flange to anchor conduit where connection to outlet box on inside wall is desired	12	2	**.50**
	S304	Housing with ring, spun aluminum. Threaded neck attaches to S300. Easy detachable ring holds Color Lens (U-45) and/or Baffle-Louver (S305)	6	4	**2.50**
	S305	Baffle-Louver, drawn steel. Black Ultranamel finish. High efficiency—adequate shielding. Fits S304 Housing	6	3½	**1.00**
	U45	Color lens, heat resisting—available in four colors. Use suffix A, R, G, B to denote Amber, Red, Green or Blue. Fits S304 Housing	36	15	**.90**

STEBER FARM LIGHTING EQUIPMENT
Low Voltage Remote Control System



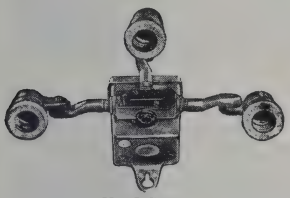
No. RC-401

Single Light—Cast Aluminum Lampholder with General Electric Remote Control.



No. RC-402

Two Light—Cast Aluminum Lampholder with General Electric Remote Control.



No. RC-403

Three Light—Cast Aluminum Lampholder with General Electric Remote Control.

Remote operation of lighting units from many points of control heretofore has involved complicated equipment and a maze of wiring at high installation cost. The Steber systems, employing General Electric Remote Control Unit, features:

1. Savings up to 80 per cent in labor and materials.
2. Absolute safety in hazardous or wet locations.
3. Complete indicating control of the circuits as switches are pressed to "on" or "off" positions.
4. Uses only low cost wire on long runs to switch locations.
5. Control switches from any number of locations.
6. Practically unlimited length of switch loads.
7. Simplicity of installation.

How It Operates

In aluminum casting containing the remote control mechanism, there is a transformer and a relay or solenoid operated switch. The transformer reduces the circuit voltage (115-125 volt AC) to 24 volts which is the voltage of the circuits which run to the various remote control switches. Thus, due to the long runs of cable to barns and other farm buildings, which is often prohibitive when standard 115-125 volt wiring has to be used, this method of remote control immediately reflects an economy which brings the safety, convenience and time saving of remote control within the means of many thousands of farm owners.

The relay operated switch opens or closes the circuit to the light as the remote switches are moved to "on" or "off" position. More than one light can be operated through a single relay provided the total load does not exceed ⅓ h.p., 15 amp., 125 volts AC.

The remote control system, using low voltage, is not subject to the same code restrictions as the conventional system. Because of its inherent safety, installation is simplified. The low voltage system can be short circuited at any point without danger to the installation of excessive heat or fire, or injury to the operator. Low cost 3-conductor wire may be used for underground, overhead or inside wiring as designated.

Complete Lighting Units

Nos. RC-401, RC-402 and RC-403 are complete lighting units. Aluminum Lampholders for PAR-38 Lamps are attached to the Remote Control Box, which also is cast aluminum, and are factory wired. Connections to 115-125 volt line and to Remote Control switches are properly labeled permitting quick and easy installation.

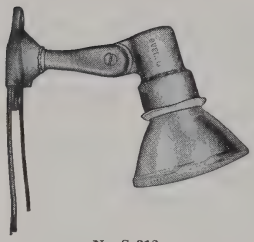
Cat. No.	Description	Carton Qty.	Std. Pkg.	Pkg. Wt.	Price
RC-400	General Electric Remote Control Unit	1	1	3	**$13.50**
RC-401	Single Light—Cast Aluminum Lampholder with General Electric Remote Control	1	1	4	**17.50**
RC-402	Two Light—Cast Aluminum Lampholder with General Electric Remote Control	1	1	5½	**22.00**
RC-403	Three Light—Cast Aluminum Lampholder with General Electric Remote Control	1	1	7	**25.00**

Note: Use General Electric Remote Control Switch No. G-3564 and Flamenol 3-conductor low voltage wire.

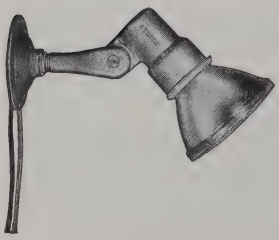
STEBERLITES—FARM LIGHTING EQUIPMENT

LAMPHOLDERS FOR SPOT AND FLOOD LIGHTING FARM AND HOME

No. S-300 Lampholder



No. S-312
Lampholder and Wall or Pole Mounting Flange



No. S-313
Lampholder and Mounting Plate for 4-inch Outlet Box

No. S-320 Two Lamp Cluster

No. S-330 Three Lamp Cluster

Specifications

Steberlite line of cast aluminum lampholders for "Sealed Beam" reflector and projector type lamps for floodlighting yards, feed lots, corrals, driveways, croquet and tennis courts, patios or other play areas on farms, country estates and homes. In fact, Steberlites are the economical answer to outdoor lighting of every description. They are completely weatherproof, of durable cast aluminum with articulated joint permitting quick and easy angle adjustment to any desired range. Each Lampholder is equipped with a special silicone rubber gasket which guarantees a permanent seal between lamp and socket. In this listing we offer the S-300 Lampholder to be mounted singly, in pairs or in clusters of three lamps depending upon the area to be illuminated and the intensity of light desired. Each Lampholder is carefully wired at the factory, facilitating assembly and reducing installation costs.

No. S-330 is a three lamp cluster unit complete with Lampholders, adapter fitting and mounting bracket.

No. S-320 is a two lamp cluster to which an additional Lampholder may be added at any time to boost the volume of light output and coverage.

The versatility of Steberlites permits many combinations and arrangements which will answer any lighting problem. Other Steberlite fittings and accessories are available, including Color equipment, louvers, adapters for four or five lamps, pole mountings, flanges, etc.

Cat. No.	Description	Cart. Qty.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
S-300	Lampholder, cast aluminum, completely wired. Mounting nipple threaded ½ in. with lock nut. Special Silicone gasket gives complete weather protection with either PAR-38 or R-40 lamps.	1	12	10½	**$3.00**
S-312	S-300 Lampholder, completely wired, and wall or pole type cast mounting flange.	1	12	18	**3.50**
S-313	S-300 Lampholder, completely wired, and outlet box plate for mounting on 4-in. Outlet Box.	1	12	12½	**3.50**
S-320	Two lamp cluster consisting of 2 S-300 Lampholders completely wired, Adapter Fittings, close nipple and cast mounting flange.	1	6	13	**8.00**
S-330	Three lamp cluster consisting of three S-300 Lampholders completely wired, Adapter Fitting, close nipple, and cast mounting flange.	1	6	18	**11.00**

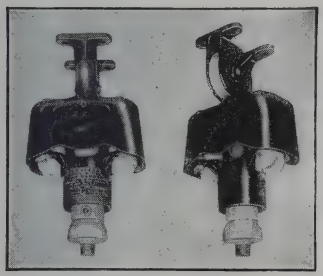
Lamps not included.

THOMPSON DISCONNECTING AND LOWERING HANGERS

2-Pole for Single 2-Wire Circuits Only

Underwriters' Approved Ratings: 15 Amps., 600 Volts, 30 Amps., 250 Volts, A.C., 20 Amps., 250 Volts, D.C. for Open, ½ or ¾-inch Conduit Wiring Electrical Testing Laboratories, Inc.: 5 Amps., 1100 Volts, A.C. Only

For Indoor Use



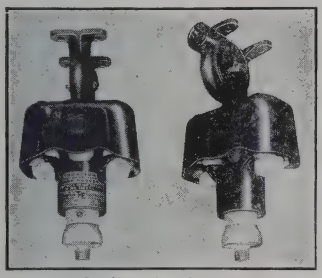
2 Views, No. L-1210

WITH OPEN FACE SHEAVE HOUSING

This is the most flexible and universally applicable model. It provides for chain or cable delivery to the sheave housing, at any desired vertical angle from 15 degrees above, to 90 degrees below horizontal, except as limited by the diameter of the reflector.

When ordering, be sure to specify size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Iron Construction				Aluminum Alloy Construction			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.	Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
L-1210	9	6	57	**AL-2220**	5½	6	34



2 Views, No. L-1250

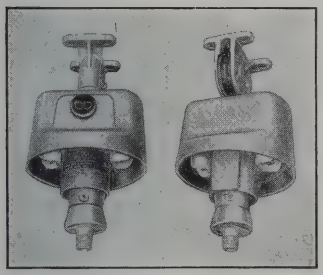
WITH SEALTYPE SHEAVE HOUSING

Threaded for ¾-inch conduit enclosure of the operating chain or cable, affording the maximum protection from dust and moisture. Delivery angle to this sheave housing, of chain or cable in conduit, is limited to horizontal only

When ordering, be sure to specify size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Iron Construction				Aluminum Alloy Construction			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.	Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
L-1250	9½	6	59	**AL-2260**	6	6	38

For Outdoor Use



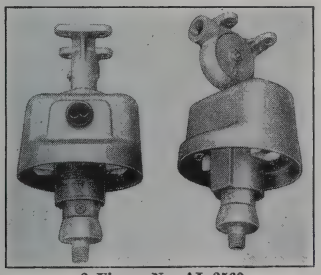
2 Views, No. AL-2520

WITH OPEN FACE SHEAVE HOUSING

This is the most flexible and universally applicable model, but does not afford maximum protection from dust and moisture. Should be sheltered when possible. It provides for chain or cable delivery to the sheave housing, at any desired vertical angle from 15 degrees above horizontal, to 85 degrees below horizontal, except as limited by the diameter of the reflector.

When ordering, be sure to specify size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Aluminum Alloy Construction Only			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
AL-2520	6	6	39



2 Views, No. AL-2560

WITH SEALTYPE SHEAVE HOUSING

Threaded for ¾-inch conduit enclosure of the operating chain or cable, affording the maximum of protection from dust and moisture. Delivery angle to this sheave housing, of chain or cable in conduit, is limited to horizontal only. This is the hanger supplied in Special Factory and Farm Unit packages.

When ordering, be sure to specify size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Aluminum Alloy Construction Only			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
AL-2560	6½	6	42

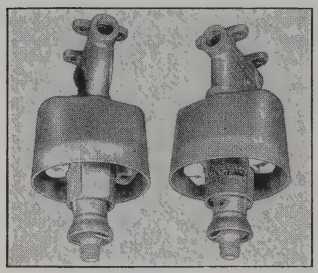
For detailed specifications of Hangers, Unit Packages, Shock Absorbers and accessories — see Thompson Electric Company's catalog.

THOMPSON DISCONNECTING AND LOWERING HANGERS

SPECIAL PURPOSE OUTDOOR HANGER

2-POLE FOR SINGLE 2-WIRE CIRCUITS ONLY

Ratings: Underwriters' Laboratories, Inc.
15 Amps., 600 Volts, 30 Amps., 250 Volts A.C.
20 Amps., 250 Volts, D.C.
Ratings: Electrical Testing Laboratories, Inc.
5 Amps., 1100 Volts, A.C. only.



2 Views, No. AL-2780

This new hanger of Aluminum Alloy construction is similar to, and replaces, the former model, No. L-177, of iron construction. All parts of the new hanger have been increased in size for increased strength and load carrying capacity. All load carrying parts, except the new re-inforced stainless steel guide tube and the manganese bronze latchdog, are of heat treated Aluminum Alloy of high corrosion resistance. Parts exposed to weather, but not to load, are high silica Aluminum Alloy of high corrosion resistance. The heat treated Alloy Aluminum stem is permanent mold cast and machined to .001 accuracy, then anodized to U.S. Air Force specifications to resist over 100 hours salt spray.

For extra protection, all other aluminum parts are given 2 baked coats of a corrosive resistant aluminum enamel only affected by concentrated alkalis. The baked enamel is also an excellent base for further painting, for still greater protection, if desired.

Wiring entrance is tapped ¾ inch in the sheave housing in line with and opposite to the chain or cable entrance. The wiring channel is entirely separated from the pulley space by a cast partition wall which matches the partition in the top of the canopy.

Ball bearing swivel end fitting No. L-1050 is supplied with all hangers unless otherwise specified. Detail specifications will be supplied upon request.

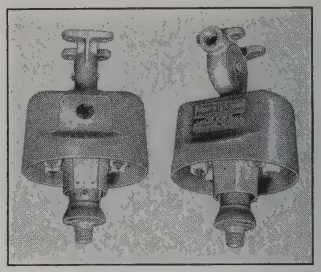
Weights and Standard Packages

Cat. No.	Actual Wt. Lbs.	No. in Std. Package	Shpg. Wt. Lbs.
AL-2780	6½	6	42
AL-12780-KR	6½	6	42
AL-12780-VR	7½	6	48

When ordering as a separate unit, be sure to specify the size of the operating chain or cable and if cable, whether hand or winch operated. This information will assure correct stem hole size and correct size and type of ball bearing swivel and fittings.

4-POLE FOR 3-WAY 4-WIRE USE

Underwriters' Ratings: 15 Amps., 115 Volts, 7.5 Amps., 230 Volts A.C. only on each Circuit



2 Views of the New Model AL-4660 Hanger With Sealtype Sheave Housing for Outdoor Use

All of the desirable features of the well known two-pole Thompson Hangers are embodied in these new hangers now available for both indoor and outdoor use. These are: positive latching, positive positioning with no change of polarity, equalized contact pressure and simple manual control through the same lightweight chain or cable used to raise and lower the luminaires.

Underwriters' approved and rated 15 amps. 115 volts, 7.5 amps. 230 volts A.C., on each circuit, they are particularly suited for combination mercury incandescent luminaires of the single, twin or triple unit type or similar types for straight incandescent or straight mercury units.

The hangers can be used in any combination of circuits within their capacity such as two circuits 3-wire leaving one pole blank, two circuits of two wires each, or three circuits of four wires with a common return.

With this arrangement individual control may be used on each circuit. For outdoor use two floodlights may be suspended on a single hanger with individual control of each. Grade crossing or underpass flasher lights in pairs, street intersection and 4 wire traffic signal lights may be suspended from a single hanger accessible for ground level servicing. Indoors with a triple unit, for instance, one, two or all three units may be lighted according to the light required. In arenas, public halls, etc., where various color combinations may be desirable, seven color combinations are possible without rheostats. With rheostats in each of the three circuits and lamps of the three primary colors, each color in the spectrum is available and the fixtures can still be serviced at floor level.

These new Hangers eliminate the necessity for using suspension transformers and consequent winch operation for handling the combined transformer and luminaire weight. They make possible simpler and easier operation with lighter and smaller operating chain or cable, thereby reducing installation cost.

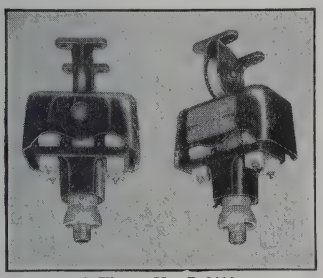
The Indoor Hangers of the 3-way 4-wire type are now available in 2 constructions, Iron, similar to the preceding models in baked enamel finish and Aluminum Alloy in baked aluminum enamel finish. For listing see following page.

THOMPSON DISCONNECTING AND LOWERING HANGERS

4-Pole for 3-Way 4-Wire Service

Underwriters' Ratings: 15 Amps., 115 Volts, 7.5 Amps., 230 Volts A.C. only, on each Circuit

May be used in any combination of circuits within their capacity ratings, such as two circuits each 2 wire, 2 circuits 3 wire leaving one pole blank, 3 circuits 4 wire with a common return.



2 Views, No. L-3410

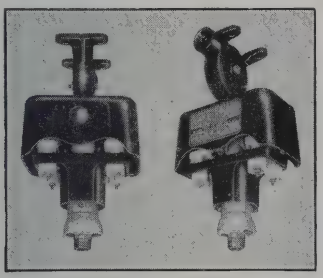
For Indoor Use

WITH OPEN FACE SHEAVE HOUSING

This is the most flexible and universally applicable model. It provides for chain or cable delivery to the sheave housing, at any desired vertical angle from 15 degrees above, to 90 degrees below horizontal, except as limited by the diameter of the reflector.

When ordering be sure to specify the size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Iron Construction				Aluminum Alloy Construction			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.	Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
L-3410	10	6	63	**AL-4420**	6	6	39



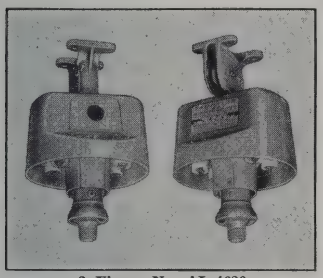
2 Views, No. L-3450

WITH SEALTYPE SHEAVE HOUSING

Threaded for ¾-inch conduit enclosure of the operating chain or cable, affording the maximum protection from dust and moisture. Delivery angle to this sheave housing, of chain or cable in conduit, is limited to horizontal only.

When ordering be sure to specify the size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Iron Construction				Aluminum Alloy Construction			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.	Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
L-3450	10½	6	66	**AL-4460**	6½	6	42



2 Views, No. AL-4620

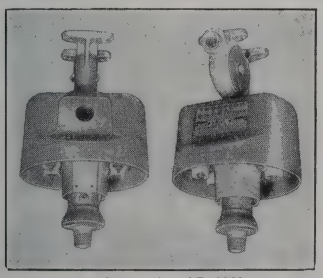
For Outdoor Use

WITH OPEN FACE SHEAVE HOUSING

This is the most flexible and universally applicable model, but does not afford maximum protection from dust and moisture. Should be sheltered when possible. It provides for chain or cable delivery to the sheave housing, at any desired vertical angle from 15 degrees above horizontal, to 85 degrees below horizontal, except as limited by diameter of reflector.

When ordering be sure to specify the size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Aluminum Alloy Construction Only			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
AL-4620	7½	1	9



2 Views, No. AL-4660

WITH SEALTYPE SHEAVE HOUSING

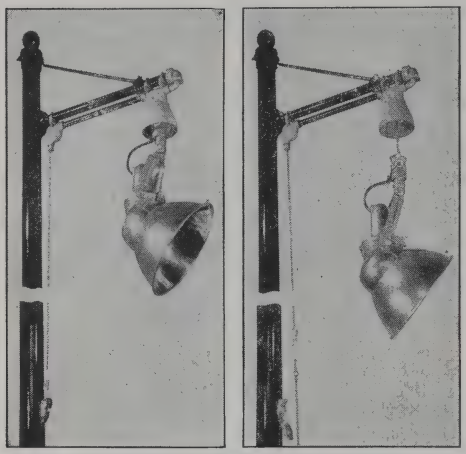
Threaded for ¾-inch conduit enclosure of the operating chain or cable, affording maximum of protection from dust and moisture. Delivery angle to this sheave housing, of chain or cable in conduit, is limited to horizontal only.

When ordering be sure to specify the size of operating chain or cable and if cable, whether hand or winch operated, to assure correct stem reaming and swivel end fittings.

Aluminum Alloy Construction Only			
Cat. No.	Wt. Lbs. Each	Std. Pkg.	Shpg. Wt. Lbs.
AL-4660	8	1	10

For detailed specifications of Hangers, Unit Packages, Shock Absorbers and accessories — see Thompson Electric Company's catalog.

THOMPSON DISCONNECTING AND LOWERING HANGERS
UNIT PACKAGES FOR OUTDOOR LIGHTING



General Electric L-69, with UPL-2780-VR2, showing open vertical chain run and a hanger disconnected and partially lowered. Note the perfect balance.

The similarity of equipment requirements for pole or wall bracket installations of pendant type or flood type of lighting fixtures permits the grouping of typical Thompson Hangers and accessory fittings into complete Unit Packages ready for wiring and erecting. These Unit Packages eliminate the necessity of selecting each piece of accessory equipment individually and thereby save the time and possible confusion which might result when specifying, requisitioning, ordering, stocking and installing.

The Unit Packages now offered are entirely new as they include the new Aluminum Alloy hangers for outdoor use and the improved Aluminum Alloy accessories required for use with the hangers.

The Aluminum Alloy hangers and accessories with their two baked coats of aluminum enamel are, we believe, far superior in the resistance to weathering and corrosion to the old black or hot dipped galvanized units.

The number and variety of Unit Packages has also been increased to include additional types of lighting units and more varied types of installations frequently encountered.

Listed in this section are the new Unit Packages now available. Special Unit Packages for special pole or bracket designs will be added from time to time as warranted by the potential demand. Our Engineering Department will gladly assist in working out such units.

Selecting the Correct Unit Package

Selecting the correct Unit Package is greatly simplified if the following facts regarding their identification are fully understood. All Standard Unit Package catalog numbers contain the catalog number of the included Thompson Hanger. Unit Packages for special design poles use the pole design number.

UNIT PACKAGES FOR OUTDOOR LIGHTING

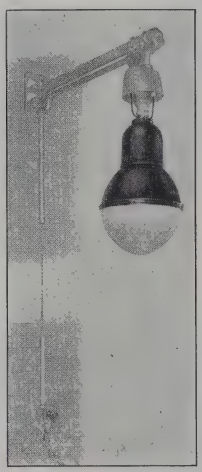
UP in front of the number designates Unit Package to distinguish it from the catalog number of the hanger only.

UPL indicates open vertical chain or cable run between the lock box and the corner pulley above. There is no protection from weathering and little from tampering for the operating chain or cable. These Units are required where guide arms are necessary or conduit enclosure of the chain or cable is impossible.

UPBL indicates provision for ¾-inch conduit enclosure of the vertical chain or cable run between the threaded box and the corner pulley above. Full protection is afforded the operating chain or cable from weather and from tampering.

1¼" or 1½" at the end of the hanger catalog number indicates hole spacing and accessory fittings for 1¼- or 1½-inch pipe mast or wall bracket arms. Both sizes are available in all Unit Packages except the Factory and Farm Units which are seldom used in pipe mountings. They are suitable for 1¼-inch pipe size only.

Unit Packages Naturally Divide Into Three Groups



A wall-bracket mounted street lighting fixture. Unit Package UPBL-2780-1½, with wall plate No. 8242 added.

1. **For vertical or angle pendant reflector units with threaded connection.** These Unit Packages are all supplied with the Type F½ (½-inch male pipe thread) fixture connecting adapters. Adapters Type F¾, G½ or G¾ will be supplied without extra charge when so specified by adding the correct adapter designation as a suffix to the Unit Package number.

For female connections larger than ¾-inch pipe see Adapter Bushings.

2. **For ball or yoke suspended floodlights or other units.** The hangers in these units are supplied with the Type VR adapter and bail clips, Modification 2, and also with conductor cable clamps, Modification 3. The VR adapter permits vertical adjustment of the floodlight to any desired position while still preserving perfect balance.

The conductor cable clamps provide support below the binding posts of the lower contacts for the 2-conductor cord supplied with the floodlights.

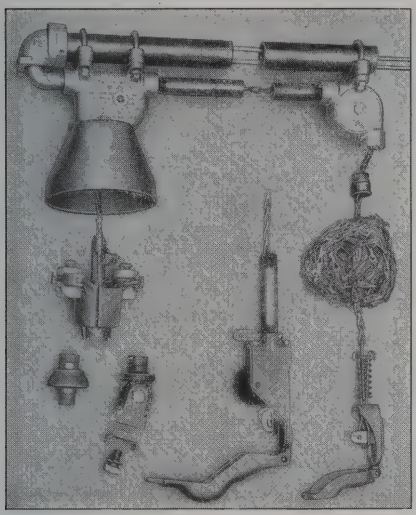
3. **For Special Units.** Such as Aeronautical Obstruction Lights requiring the Special Type P adapter, for special design pole mountings where the pole design number is the base for the catalog number.

The illustration shown on this page will help in identifying the differences in the various Unit Packages.

For detailed specifications of Hangers, Unit Packages, Shock Absorbers and accessories — see Thompson Electric Company's catalog.

THOMPSON DISCONNECTING AND LOWERING HANGERS

UNIT PACKAGES



Contents of the various Unit Packages. Note the open type lock box for UPL, and the threaded lock box with pulley wheel for UPBL, Unit Packages. Also note the Type F½, adapter for pendant type units and the VR adapter for bail or yoke suspended floodlights.

This illustration shows the parts which, when properly combined, make up the standard Unit Packages except the Factory and Farm Unit. **UPL** Packages contain the open type lock box, the pulley flare end and the drawbar spring at chain end. **UPBL** Packages contain the conduit connected lock box, the terminal end and connecting links at chain end. Standard packages of both types for thread connected pendant units contain the F½ adapter. Standard Packages of both types for bail or yoke suspended floodlights contain the VR adapter with bail clip of size specified to suit the make and type of floodlight.

Notice—These packages do not include the pipe arm, wall or pole plate. Nor do they include the ¾-inch conduit for connecting the hanger sheave housing to the corner pulley (AL-7080) or to the threaded lock box (No. AL-8180) of the UPBL units.

For Vertical and Angle Type Reflectors with Threaded Stem Connection

No Vertical Angle Adjustment Required

These Unit Packages Contain the hanger model of the same number and are complete with appropriate fittings as illustrated above. Adapter Type F½, chain No. 33, length 33 ft. For 50 ft. length of chain at extra cost. No allowance for chain when heavier chain or cable is desired. Must be ordered separately.

Cat. No.	Type of Mounting	Wt. Lbs. Std. Pkg. (1)
	Vertical Run of Chain — Not Enclosed	
UPL-2780-1¼	For 1¼ or 1½" Pipe Arm or Bracket Mounting	15
UPL-2780-1½	For 1¼ or 1½" Pipe Arm or Bracket Mounting	15
	Vertical Run of Chain — ¾-Inch Conduit Enclosed	
UPBL-2780-1¼	For 1¼ or 1½" Pipe Arm or Bracket Mounting	15
UPBL-2780-1½	For 1¼ or 1½" Pipe Arm or Bracket Mounting	15

UNIT PACKAGES

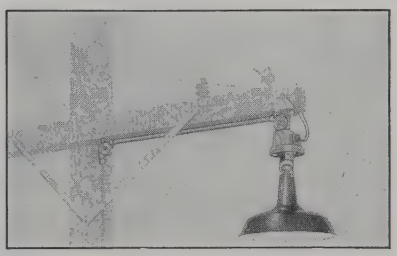
For Bail or Yoke Suspended Floodlights or Reflectors

These Unit Packages contain the hanger model with the same number including Modification II, VR adapter and Modification III, conductor cable clamps. Add width of floodlight bail to VR when ordering to assure bail clips of proper size.

Cat. No.	Type of Mounting	Wt. Lbs. Std. Pkg. (1)
	Vertical Run of Chain, Not Enclosed	
UPL-12780-1½ VR	For 1¼" Pipe Arm or Bracket	16
UPL-12780-1½ VR	For 1½" Pipe Arm or Bracket	16
	Vertical Run of Chain, ¾-inch Conduit Enclosed, Arms Not Less Than 2'6"	
UPBL-12780-1¼ VR	For 1¼" Pipe Arm or Bracket	16
UPBL-12780-1½ VR	For 1½" Pipe Arm or Bracket	16

Note: General Electric Floodlights L-45, L-46, L-68 and L-69 are provided with standard bails having irremovable, welded on, mounting brackets. These floodlights cannot be attached to Thompson Hangers without replacing these standard bails. Unit Packages will be supplied including special floodlight bail when so specified. Add to Unit Package number "include bail for G-E L-0000 Floodlight." Removed bails are returnable for credit.

FACTORY AND FARM UNIT PACKAGES



Pole cross arms are favorite location for yard lighting and here The Factory and Farm Packages (UPL-2560) are the ideal means for mounting these lights and providing for ground-level servicing without pole climbing, at low cost and with complete safety.

These Unit Packages supersede the former Steel Mill Package. They are the simplest form of package for pole cross arm, wood or steel wall bracket mounting. For maximum life and resistance to corrosion they too, are of Aluminum Alloy construction. They are also available with either open or ¾-inch conduit enclosed chain run and with standard or VR adapter, but one size only, suitable for 1¼-inch pipe bracket if pipe mounting is desired.

Cat. No.	Description	Wt. Lbs. Std. Pkg. (1)
	For Pendant Units F½ Adapter	
UPL-2560	For open vertical chain run	14
UPBL-2560	For ¾" conduit enclosed vertical chain run	14
	For Bail or Yoke Suspended Floodlights	
UPL-12560 VR	For open vertical chain run	15
UPBL-12560 VR	For ¾" conduit enclosed vertical chain run	15

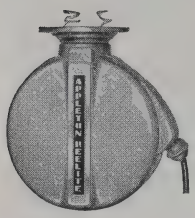
These packages contain 33 ft. of No. 33 hot dip galvanized chain. 50 ft. chain available at added cost. No credit if chains omitted.

For detailed specifications of Hangers, Unit Packages, Shock Absorbers and accessories — see Thompson Electric Company's catalog.

PORTABLE TYPE APPLETON REELITE

Have light where needed — in shops, stockrooms, garages, stores and loading docks. Furnishes light — or a flexible power source for electrical devices — keeps cord always neatly reeled up out of the way. Reduces accident hazard.

RE-7S2 PORTABLE REELITE



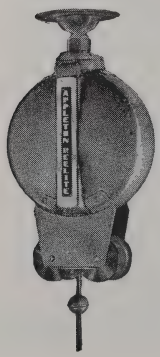
Re-designed throughout, the RE-7S2 Portable Reelite is the finest 7-inch reel ever sold. Outstanding among its many features is its continuous swiveling action. Double silver alloy collector brushes permit free rotation of the entire reel in either direction without power interruption or tangling of cord. Designed for vertical pendant mounting only — fits neatly over any 4-inch octagonal outlet box; installation is quick and easy.

Available with a wide variety of accessories (see table), such as handlamps in molded plastic, wood or rubber, with or without switches and receptacles; or with machine tool connector bodies or key sockets.

RE-7SV2 VAPORPROOF TYPE

In this model are incorporated the extra safety features that safety engineers everywhere have wanted. The 7SV2 Vaporproof Reelite is furnished complete with handlamp attached as shown. Equipped with 20 feet of 18-gauge 3-conductor SJ Cord, one conductor being grounded to reel frame. This grounding feature insures the safety of the user in areas with steel flooring or walls. Ideal for wet, steamy areas, the handlamp is fully vaporproof, with heavy plastic handle, heavy-duty wire guard and vaporproof globe. Takes lamps up to 75 watts. A world of safety and convenience at modest original cost. (With each order for 6 or more 7S2 Reelites a highly attractive demonstrator-display will be furnished on request.)

RE-7C2 CLOTH CUTTING MACHINE TYPE



Designed to meet the special requirements of the garment industry, the RE-7C2 provides the very light spring tension and maneuverability demanded in a power source for cloth cutting machines. New limited swivel ball-and-socket mounting and free action guide rollers enable the operator to follow his pattern with complete freedom from interference as the power cord is always held gently taut. Furnished with 25 feet of 18-gauge 2-conductor cord.

PORTABLE TYPE APPLETON REELITE

1500 Series

1500 SERIES PORTABLE REELITES

This series of portable type Reelites offers most of the features of the 7S series, except continuous swivel action. No. RE-1532 is a 5½-inch Reelite with 12 feet of cord, for use where space is limited. The 1500 Series also includes several models 10 inches in diameter, housing up to 50 feet of cord and servicing a 100-ft. circle. Finished in durable baked gray enamel.

Portable Type Reelites

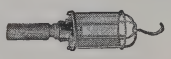
Cat. No.	Rating	Cord Length Feet	Cord Type*	Dia. of Reelite Inches	Max. Accessory Wt. Oz.
RE-7S2	10A-250V	25	16-2SJ	7	20
RE-7SV2	7A-250V	20	18-3SJ	7	30
RE-7C2	7A-250V	25	18-2	7	----
RE-1511	250V-660W	40	18-2	10	----
RE-1519	250V-660W	40	16-2SJ	10	16
RE-1520	250V-660W	50	16-2SJ	10	†None
RE-1532	250V-660W	12	16-2SJ	5½	32

*Reelites listed with 16-2 SJ cord will be supplied at extra cost with 18-3 SJ cord, one conductor being grounded to reel frame. To obtain this grounding feature, add "G" to catalog number when ordering, as "RE-1532G," etc.

†Will not support weight of handlamp.

No. RE-1511 designed for cloth cutting machine use.

ACCESSORIES FOR USE WITH PORTABLE REELITES



RE-H1 Handlamp

RE-H2 and RE-H2S

RE-H3SR

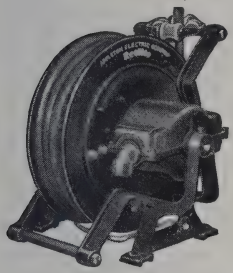
RE-H4S and RE-H4SR

RE-CB1

RE-KS1

Cat. No.	Max. Lamp Watts	Description	Wt. Oz. Each
RE-H1	100	Guard, Wood Handle, Switch, Half Reflector	17
RE-H2	100	Guard, Rubber Handle, Less Switch, Half Reflector	19
RE-H2S	100	Guard, Rubber Handle, Switch, Half Reflector	19
RE-H3SR	100	Guard, Plastic Handle, Switch, Half Reflector	18
RE-H4S	100	Lighter and Smaller than Standard Unit, Rubber Handle, Switch, Half Reflector	14
RE-H4SR	100	Lighter and Smaller than Standard Unit, Rubber Handle, Switch, Half Reflector	14
RE-CB1	.....	Machine Tool Receptacle Connector Body	14
RE-KS1	200	Composition Key Socket	4

CONSTANT DUTY REELITE
SPRING-DRIVEN CABLE LIFT REEL



TYPE "A" REELITE

When ordering, specify—catalog number of Reelite; length, gauge and number of conductors of cable; type of cable outlet desired.

Material is cast aluminum and steel. Black enameled finish.

Type "A" 3 Spring—35 Amp., 440 Volts

Cat. No.	Wt. of Reelite Only	No. of Conductors	Max. Capacity, in Feet, of Various Sizes and Conductors of Cable No. 18	No. 16	No. 14	No. 12	No. 10
CD-A23	36 lbs.	2	55	55	50	35	....
CD-A33	37 lbs.	3	55	55	45	35	....
CD-A43	38 lbs.	4	55	55	35	30	....
CD-A53	43 lbs.	5	50	50	30	20	....
CD-A63	44 lbs.	6	45	40	20	20	....

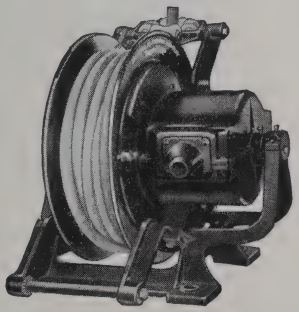
Type "A" 5 Spring—35 Amp., 440 Volts

CD-A25	40 lbs.	2	100	90	55	....	....
CD-A35	41 lbs.	3	90	75	50	....	....
CD-A45	42 lbs.	4	75	60	....	....	....
CD-A55	47 lbs.	5	60	....	....	....	....
CD-A65	48 lbs.	6	50	....	....	....	....

REELITES FOR TYPE "S" CORDS

When ordering, specify— catalog number of Reelite; length, gauge and number of conductors of cable; type of cable outlet desired.

Material is cast aluminum, and steel. Black enameled finish.



Type "BS"—35 Amp., 600 Volts

Cat. No.	Wt. of Reelite Only	No. of Conductors	Max. Capacity, in Feet, of Various Sizes and Conductorsof Cable No.18	No.16	No.14	No.12	No.10
CD-BS22	124 lbs.	2	....	....	60	60	55
CD-BS32	126 lbs.	3	....	....	60	60	55
CD-BS42	128 lbs.	4	....	65	60	50	50
CD-BS52	154 lbs.	5	65	65	55	50	45
CD-BS62	156 lbs.	6	65	65	55	50	40
CD-BS72	158 lbs.	7	65	65	55	50	40
CD-BS82	160 lbs.	8	60	55	40	35	30

Type "CS"—35 Amp., 600 Volts

CD-CS24	154 lbs.	2	110	110	105	90	85
CD-CS34	156 lbs.	3	110	110	100	85	70
CD-CS44	158 lbs.	4	110	110	90	75	60
CD-CS54	184 lbs.	5	110	100	75	65	55
CD-CS64	186 lbs.	6	100	100	65	55	45
CD-CS74	188 lbs.	7	100	100	65	55	45
CD-CS84	190 lbs.	8	85	80	45	40	35

RATCHET—For installations where constant tension is not desired, a gravity-type ratchet may be furnished at extra charge. See Schedule "CD." Orders must specify mounting position of Reelite base.

Schedule "RE" Discounts

CONSTANT DUTY REELITES
SPRING-DRIVEN CABLE LIFT REEL

REELITES FOR TYPE "S" CORDS (Continued)

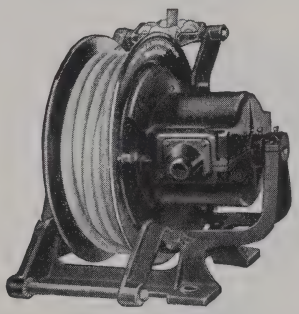
Type "DS"—35 Amp., 600 Volts

Cat. No.	Wt. of Reelite Only	No. of Conductors	Max. Capacity, in Feet, of Various Sizes and Conductors of Cable No.18	No.16	No.14	No.12	No.10
CD-DS32	214 lbs.	3	.....	.....	....	....	80
CD-DS42	216 lbs.	4	.....	.....	....	80	75
CD-DS52	240 lbs.	5	.....	.....	80	75	70
CD-DS62	242 lbs.	6	.....	.....	80	75	65
CD-DS72	244 lbs.	7	.....	.....	75	70	65
CD-DS82	246 lbs.	8	.....	.....	65	65	50

Type "ES"—35 Amp., 600 Volts

CD-ES24	272 lbs.	2	150	150	140	135	130
CD-ES34	274 lbs.	3	150	150	140	135	125
CD-ES44	276 lbs.	4	150	150	130	130	105
CD-ES54	300 lbs.	5	150	150	130	110	90
CD-ES64	302 lbs.	6	150	140	110	95	80
CD-ES74	304 lbs.	7	150	140	110	90	70
CD-ES84	306 lbs.	8	130	130	85	70	55

REELITES FOR TYPE "W" CABLES



When ordering, be sure to specify catalog number of Reelite; length, gauge and number of conductors of cable; and type of cable outlet required.

Material is cast aluminum and steel. Black enameled finish.

Type "BW"—100 Amp., 600 Volts

Cat. No.	Wt. of Reelite Only	No. of Conductors	Max. Capacity, in Feet of Various Sizes and Conductors of Cable No.8	No.6	No.4	No.3	No.2	No.1
CD-BW12	122 lbs.	1	60	60	55	....	....	....
CD-BW22	124 lbs.	2	45	35	20	....	....	....
CD-BW32	126 lbs.	3	40	30	20	....	....	....
CD-BW42	128 lbs.	4	30	25	15	....	....	....

Type "CW"—100 Amp., 600 Volts

CD-CW14	152 lbs.	1	100	100	85	....	....	....
CD-CW24	154 lbs.	2	55	40	25	....	....	....

Type "DW"—100 Amp., 600 Volts

CD-DW12	210 lbs.	1	....	....	....	75	65	60
CD-DW22	212 lbs.	2	75	65	45	35	30	25
CD-DW32	214 lbs.	3	65	50	35	30	25	20
CD-DW42	216 lbs.	4	50	40	25	20	20	15

Type "EW"—100 Amp., 600 Volts

CD-EW14	270 lbs.	1	140	135	120	110	100	75
CD-EW24	272 lbs.	2	90	70	....	....	....	....
CD-EW34	274 lbs.	3	70	55	....	....	....	....
CD-EW44	276 lbs.	4	55	45	....	....	....	....

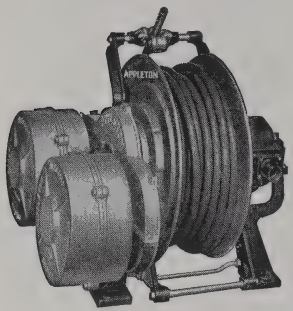
Type "EWM"—100 Amp., 600 Volts
Special Mill Type

CD-EWM15	285 lbs.	1	140	135	120	110	100	75
CD-EWM25	287 lbs.	2	90	70	....	....	....	....
CD-EWM35	289 lbs.	3	70	55	....	....	....	....
CD-EWM45	291 lbs.	4	55	45	....	....	....	....

RATCHET—For installations where constant tension is not desired, a gravity-type ratchet may be furnished at extra charge. See Schedule "CD." Orders must specify mounting position of Reelite base.

Schedule "RE" Discounts—Group 3

CONSTANT DUTY REELITES
SPRING-DRIVEN CABLE LIFT REEL
TYPE "EG" FOR "W" CABLES
Rating — 100 Amp., 600 Volts



When ordering, specify catalog number of Reelite; length, gauge and number of conductors of cable. Spring-driven through cut gears. Cable outlet is four roller guide type.

Material is cast aluminum and steel. Black enameled finish.

Cat. No.	Wt. of Reelite Only	No. of Conductors	Max. Capacity, in Feet, of Various Sizes and Conductors of Cable No.8	No.6	No.4	No.3	No.2	No.1
CD-EG22	358 lbs.	2	....	75	60	55	50	45
CD-EG32	360 lbs.	3	75	65	55	50	45	40
CD-EG42	362 lbs.	4	70	60	50	45	40	35
CD-EG14	370 lbs.	1	....	....	130	130	120	110
CD-EG24	372 lbs.	2	110	105	90	70	65	50
CD-EG34	374 lbs.	3	105	100	75	65	60	45
CD-EG44	376 lbs.	4	100	85	60	55	45	....

RATCHET—For installations where constant tension is not desired, a gravity-type ratchet may be furnished at extra charge. See Schedule "CD." Orders must specify mounting position of Reelite base.

Schedule "RE" Discounts—Group 3

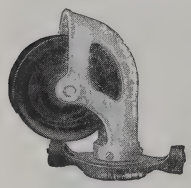
ROLLER CABLE OUTLETS
For Constant Duty Reelites

In order to obtain maximum efficiency from the Constant Duty Reelite, it is necessary not only to choose the correct outlet but also to set it in correct position so that future difficulties and additional expenses are avoided.

GUIDE ROLLER TYPE CABLE OUTLET

Used generally for all conditions where cable is drawn at a tangent to reel drum. Cable may be pulled within a conical plane of 30 to 40 degrees without a serious loss of efficiency.

Guide Roller Type

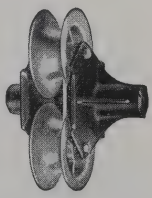


SWIVEL TYPE CABLE OUTLET

Used where cable must be drawn at right angles to drum and in arcs of a maximum range of 225 degrees. Only cable O.D. of 1⅛-inch and less can be used with this outlet.

LARGE ROLLER TYPE

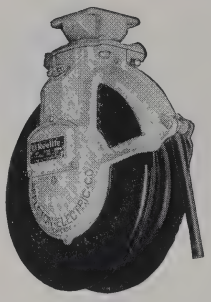
Used for installation where cable is drawn out in a straight line parallel to the track and where current source is at the mid-point of the runway. Only cable O.D. of 1⅛-inch and less can be used.



All Constant Duty Reelites are furnished with any one of the Cable Outlets (illustrated above) as standard equipment. When purchased separately, prices on request.

Schedule "RE" Discounts—Group 3

APPLETON TYPE "YS" REELITE
PORTABLE POWER FOR ELECTRIC HOISTS

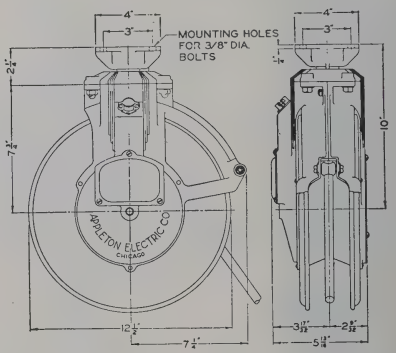


An automatic take-up, spring-operated cable reel designed principally to furnish power to traveling electric hoists operating on straight or curved tracks.

Type "YS" Reelites are furnished complete with swivel base and Type S cord assemblies. Cord assemblies have skinned leads with solderless lugs directly connected to terminal block on reel drum side. Swivel base has cast stop lug which limits rotation to approximately 335 degrees. It is not recommended for endless monorail systems which require collector rings for continuous rotation.

As reel swivels with respect to its fixed mounting, a looped, flexible rubber cord should be used to supply current to the brushes. When hoist is mounted on an ungrounded support, an extra conductor must be supplied to maintain the safety grounding circut. For single phase systems, a 3-conductor reel should be used; for three phase systems, a 4-conductor reel should be used. The grounding shunt regularly furnished may be discarded only when hoist is operating on a grounded monorail track. In this case, no extra conductor is necessary.

Dimensions in Inches



Type "YS" Cord Reel

Furnished complete with swivel base and maximum length of Type S cord.

10 Amps., 550 A.C., 250 D.C.

Wire Gauge No.	Conductors	Cat. No.	Cord Length	Net Wt. Lbs.	Price Each
16	2	RE-YS162-45	45′	23	●
	3	RE-YS163-45	45′	24	●
	4	RE-YS164-40	40′	25	●

15 Amp., 550 A.C., 250 D.C.

14	2	RE-YS142-40	40′	25	●
	3	RE-YS143-35	35′	25	●
	4	RE-YS144-25	25′	25	●

Finish: Two-tone baked enamel.

Schedule "RE" Discounts

ZOO ELECTRIC CORD REELS

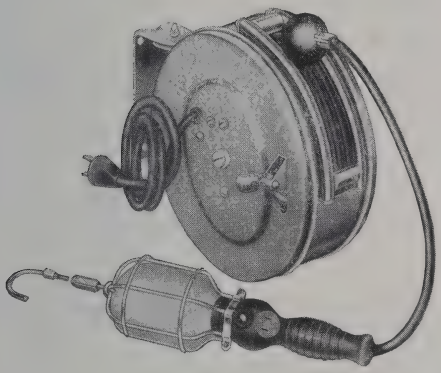
The SW Models represent an outstanding value as they have the same general Heavy Duty construction as the DeLuxe Roller Industrial. Both have the following features in common:

1. Wall or ceiling mounting.
2. Plug in lead so that they do not require outlet boxes for mounting. (Either model can be furnished to mount on outlet box if desired).
3. Both have heaviest motor springs, shafts and bearings of any Light Cord Reel.
4. Tangential or straight pull of cord out of reel. This means long cable life, because there is no snubbing action as when cable comes out of a bushing.
5. Swivel Mounting Brackets to ease cord abrasion when cable is pulled sideways.

Additional features common to both SW and RI Models:

- Built-in swivel.
- 30-inch plug-in lead.
- Heaviest motor spring.
- Roller cable outlet.
- Lifetime sealed-in lubricant.
- Complete disassembly blind screw.
- Oversize main bearings.
- Heavy duty internal cam lock.
- Cable stop shock spring.
- High ampere slip rings
- Adjustable cable stop.
- Heavy gauge housing.
- Floating brush holder.
- Rugged cable drum.
- Removable cover.

GENERAL PURPOSE ELECTRIC CORD REELS — MODEL SW



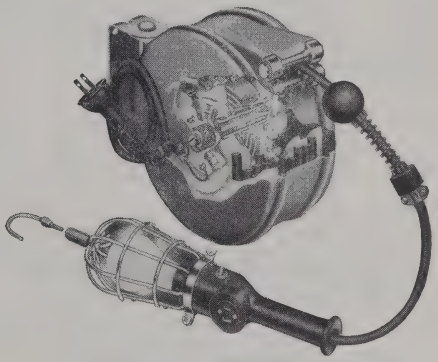
The SW differs from RI in the following ways:

1. SW has Open Canopy Cable Outlet.
2. SW has foolproof, gravity operated, External Trigger Lock.
3. Cable in SW is Neoprene 18-2 while RI has 16-2 Neoprene.
4. SW has conventional, popular priced automotive type handle, switch, side outlet, etc., while RI has superior Industrial type handle of finest Neoprene material with heavier contacts, water-tight sockets, heavy duty side outlet, improved strain relief, etc.
5. The Model RI is designed for severe service in Mines, Smelters, Railroad shops, Mills, Foundries and all Industrial requirements.

Model SW 25 (25 feet).....each **$19.50**
Dimensions: 7½ x 3 inches. Shipping weight—10 lbs., packed in individual boxes, 6 boxes to case.

Model SW 45 (45 feet).....each **$29.50**
Dimensions: 9½ x 3 inches. Shipping weight—13 lbs., packed in individual boxes, 6 boxes to case.

HEAVY DUTY INDUSTRIAL ROLLER TYPE ELECTRIC CORD REELS — MODEL RI



Aero-Motive Reels have heavy duty construction and unique design features found in no other Electric Cord Reels.

Model RI 25 (25 feet) Roller Industrial
.....each **$27.50**

Dimensions: 7½ x 3 inches. Shipping weight—11 lbs., packed in individual boxes, 6 units to case.

Model RI 45 (45 feet) Roller Industrial
.....each **$37.50**

Dimensions: 9½ x 3 inches. Shipping weight—13 lbs., packed in individual boxes, 6 units to case.

Both RI and SW can be furnished with 3 conductor cable for safety ground, at net extra charge. Safety Pressure Connector breaks apart with slight pull. Also note Full Swivel Hook.

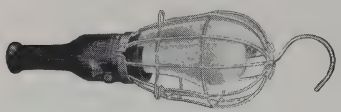
Note: 25 Ft. model carries approximately 20 ft. 3 conductor, 45 Ft. model carries approximately 35 ft. 3 conductor.

McGILL PORTABLE LAMP GUARDS

Approved by Underwriters' Laboratories, Inc.

No. 7000 SERIES PORTABLE LAMP GUARDS

Rubber Handle—Closed End Cage



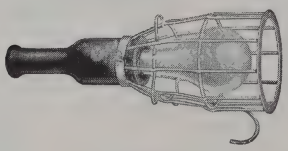
No. 7000-SR

Black rubber handle equipped with 660 watt, 250 volt socket. Electrically welded steel wire cage with No-Rol feature, heavily zinc plated. Exceptionally sturdy and serviceable for general portable lighting applications.

Cat. No.	Description	Wt. Oz. Each	Price Each
7000	Lamp size max. 100-w, RS, Keyless Socket	20	**$3.60**
7000R	No. 7000 with Reflector	21	**3.90**
7000S	No. 7000 with Levolier Switch	20	**4.00**
7000SR	No. 7000 with Reflector and Levolier Switch	22	**4.10**
7060	Lamp size max. 60-w, Keyless Socket	17	**3.50**
7060R	No. 7060 with Reflector	18	**3.70**
7060S	No. 7060 with Levolier Switch	17	**3.80**
7060SR	No. 7060 with Reflector and Levolier Switch	18	**3.90**
7000M	Lamp size 50-w, RS, Keyless Socket	19	**3.50**
7000MR	No. 7000-M with Reflector	20	**3.70**
7000MS	No. 7000-M with Levolier Switch	19	**3.80**
7000MSR	No. 7000-M with Reflector and Levolier Switch	20	**3.90**

No. 7001 SERIES PORTABLE LAMP GUARDS

Rubber Handle—Open End Cage



No. 7001

Similar to 7000 series portable lamp guard except that cage has open end for easier removal of lamp.

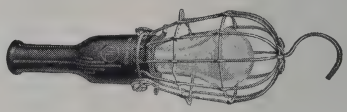
Cat. No.	Description	Wt. Oz. Each	Price Each
7001	Lamp size max. 100-w, RS, Keyless Socket	22	**$4.00**
7001R	No. 7001 with Reflector	24	**4.20**
7001S	No. 7001 with Levolier Switch	22	**4.40**
7001SR	No. 7001 with Reflector and Levolier Switch	24	**4.60**
7001M	Lamp size max. 50-w, RS, Keyless Socket	19	**3.90**
7001MR	No. 7001-M with Reflector	20	**4.10**
7001MS	No. 7001-M with Levolier Switch	19	**4.20**
7001MSR	No. 7001-M with Reflector and Levolier Switch	20	**4.40**
7002	Lamp size 200-w, Grounded Socket	24	**5.00**
7002R	No. 7002 with Reflector	25	**6.30**

McGILL PORTABLE LAMP GUARDS

Approved by Underwriters' Laboratories, Inc.

No. 7100 SERIES PORTABLE LAMP GUARDS

Rubber Handle—Closed End Cage



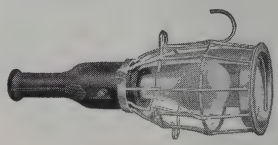
No. 7100

The No. 7100 series of guards is essentially the same as No. 7000 series, except that a wire collar is used instead of the flat steel collar. The cage is held to the handle by a clamp arrangement.

Cat. No.	Description	Wt. Oz. Each	Price Each
7100	Lamp size max. 100-w, RS, Keyless Socket	22	**$3.60**
7100R	No. 7100 with Reflector	23	**3.80**
7100S	No. 7100 with Levolier Switch	22	**4.00**
7100SR	No. 7100 with Reflector and Levolier Switch	23	**4.20**
7100M	Lamp size max. 50-w, RS, Keyless Socket	19	**3.50**
7100MR	No. 7100-M with Reflector	20	**3.70**
7100MS	No. 7100-M with Levolier Switch	19	**3.80**
7100MSR	No. 7100-M with Reflector and Levolier Switch	20	**4.10**

No. 7000LR SERIES PORTABLE LAMP GUARDS

Rubber Handle—Concentrating Lens and Reflector Assembly



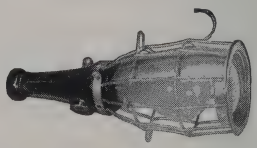
No. 7000-SLR

These portable lamp guards have the 7000 series handle and socket. No-Rol steel wire cages are equipped with concentrating end lens and reflector assembly that amplifies light up to 6½ times at two feet. Ideal for intensified lighting.

Cat. No.	Description	Wt. Oz. Each	Price Each
7000LR	Lamp size max. 100-w, Keyless Socket	24	**$5.80**
7000SLR	No. 7000LR with Levolier Switch	24	**6.10**

No. 5000-LR SERIES PORTABLE LAMP GUARDS

Plastic Handle—Concentrating Lens and Reflector Assembly



No. 5000-SLR

This series features the new, approved 15-amp., 125-volt convenience outlet molded-in the phenolic plastic handle. Provides on-the-spot power source for tools, etc. Uses the open cage fitted with lens for concentrating light through an end lens.

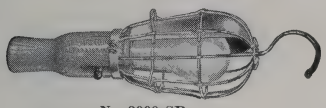
Cat. No.	Description	Wt. Oz. Each	Price Each
5000LR	Lamp size 100-w, RS with Keyless Socket	17	**$6.80**
5000SLR	5000LR with Levolier Switch	17	**7.30**

McGILL PORTABLE LAMP GUARDS

Approved by Underwriters' Laboratories, Inc.

No. 8000 SERIES PORTABLE LAMP GUARDS

Hard Wood Handle—Closed End Cage



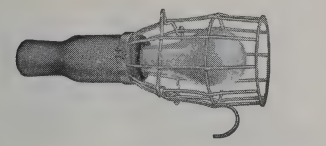
No. 8000-SR

The 8000 series portable lamp guards are built with polished wood handles and 660 watt, 250 volt sockets. Electrically welded No-Rol steel wire cages, heavily zinc plated. More generally serviceable around oil and grease.

Cat. No.	Description	Wt. Oz. Each	Price Each
8000	Lamp size max. 100-w, RS, Keyless Socket	19	**$3.50**
8000R	No. 8000 with Reflector	20	**3.70**
8000S	No. 8000 with Levolier Switch	19	**3.80**
8000SR	No. 8000 with Reflector and Levolier Switch	20	**4.10**
8060	Lamp size max. 60-w, Keyless Socket	17	**3.40**
8060R	No. 8060 with Reflector	18	**3.60**
8060S	No. 8060 with Levolier Switch	17	**3.70**
8060SR	No. 8060 with Reflector and Levolier Switch	18	**4.00**
8000M	Lamp size max. 50-w, RS, Keyless Socket	17	**3.40**
8000MR	No. 8000M with Reflector	18	**3.60**
8000MS	No. 8000M with Levolier Switch	17	**3.70**
8000MSR	No. 8000M with Reflector and Levolier Switch	18	**4.00**

No. 8001 SERIES PORTABLE LAMP GUARDS

Hard Wood Handle—Open End Cage



No. 8001

Similar to 8000 series portable lamp guards, except that cage has open end for easier removal of lamp.

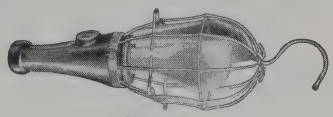
Cat. No.	Description	Wt. Oz. Each	Price Each
8001	Lamp size max. 100-w, RS, Keyless Socket	22	**$4.00**
8001R	No. 8001 with Reflector	22	**4.20**
8001S	No. 8001 with Levolier Switch	22	**4.30**
8001SR	No. 8001 with Reflector and Levolier Switch	22	**4.50**
8001M	Lamp size max. 50-w, RS, Keyless Socket	19	**3.80**
8001MR	No. 8001M with Reflector	20	**4.10**
8001MS	No. 8001M with Levolier Switch	19	**4.20**
8001MSR	No. 8001M with Reflector and Levolier Switch	20	**4.40**
8002	Lamp size max. 200-w, Grounded Socket	22	**5.10**
8002R	No. 8002 with Reflector	23	**6.10**

McGILL PORTABLE LAMP GUARDS

Approved by Underwriters' Laboratories, Inc.

No. 5000 SERIES PORTABLE LAMP GUARDS

Phenolic Plastic Handle with Convenience Outlet



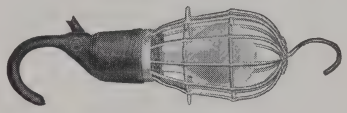
No. 5000-R

A DeLuxe Portable Lamp Guard with an Underwriters' Approved convenience outlet built into an impact resisting brown phenolic plastic handle. Sturdily constructed with a 15 Amp. 125 volt, 10 Amp. 250 volt outlet, 660 watt, 250 volt socket, cord strain relief and cord seal.

No-Rol cage of heavy steel wire, zinc plated and electrically welded. Especially handy for all repair work because of convenience outlet and oil- and grease-proof handle. Available with or without Levolier switch.

Cat. No.	Description	Wt. Oz. Each	Price Each
5000	Lamp size max. 100-w, RS, Keyless Socket	15	**$4.60**
5000R	No. 5000 with Reflector	17	**4.90**
5000S	No. 5000 with Levolier Switch	17	**5.10**
5000SR	No. 5000 with Reflector and Levolier Switch	19	**5.30**

No. 650 SERIES PORTABLE LAMP GUARDS



No. 650

Moulded black rubber handle formed with steel reinforced hook. Pliable socket section holds 660 watt, 250 volt socket, and cord strain relief disk.

No-Rol cage of heavy steel wire, zinc plated and electrically welded. Hook on both cage and handle insures more convenient application of portable lighting.

Rubber Hook Handle—Closed End Cage

Cat. No.	Description	Wt. Oz. Each	Price Each
650	Lamp size max. 100-w, RS, Keyless Socket	23	**$4.30**
650R	No. 650 with Reflector	25	**4.50**
650S	No. 650 with Levolier Switch	23	**4.60**
650SR	No. 650 with Reflector and Levolier Switch	25	**4.90**
650M	Lamp size max. 50-w, RS, Keyless Socket	21	**4.30**
650MR	No. 650M with Reflector	22	**4.40**
650MS	No. 650M with Levolier Switch	21	**4.50**
650MSR	No. 650M with Reflector and Levolier Switch	22	**4.70**

Rubber Hook Handle — Open End Cage

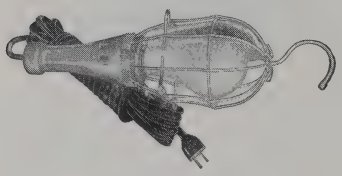
651	Lamp size max. 100-w, RS, Keyless Socket	22	**$4.50**
651R	No. 651 with Reflector	24	**4.80**
651S	No. 651 with Levolier Switch	22	**5.10**
651SR	No. 651 with Reflector and Levolier Switch	24	**5.40**
651M	Lamp size max. 50-w, RS, Keyless Socket	21	**4.50**
651MR	No. 651M with Reflector	22	**4.80**
651MS	No. 651M with Levolier Switch	22	**5.10**
651MSR	No. 651M with Reflector and Levolier Switch	22	**5.40**

McGILL PORTABLE SERVICE LIGHTS

Approved by Underwriters' Laboratories, Inc.

No. 5000 SERIES SERVICE LIGHT

Two-Wire Side Convenience Outlet in Phenolic Plastic Handle



No. 5025-SR

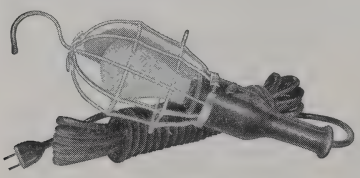
The 5025 portable lamp guard offers an Underwriters' Approved convenience outlet built into an impact resisting phenolic plastic handle. Sturdy, 15 Amp. 125 Volt, 10 Amp. 250 Volt special keyless socket.

Heavily zinc plated. No-Rol cage. Strain relief and cord seal in handle. DeLuxe Service Light with red thermoplastic cord and plug for 100% oil and grease proof portable lighting applications. Available with or without Levolier switch.

Cat. No.	Description	Wt. Oz. Each	Price Each
5025	Lamp size max. 100-w, RS, with 25 ft. Plastic Cord	31	**$8.10**
5025R	5025 with Reflector	33	**8.20**
5025S	5025 with Levolier Switch	33	**8.50**
5025SR	5025 with Reflector and Levolier Switch	35	**8.80**
5050	Lamp size max. 100-w, RS, with 50 ft. Plastic Cord	47	**11.20**
5050R	5050 with Reflector	49	**11.40**
5050S	5050 with Levolier Switch	49	**11.60**
5050SR	5050 with Reflector and Levolier Switch	51	**11.80**

No. 7000 SERIES SERVICE LIGHT

Rubber Handle—Closed End Cage



No. 7025-SR

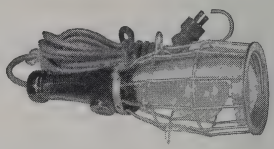
Complete service lights with oil and grease proof thermoplastic cord and plug — tough but pliable. Equipped with steel wire No-Rol cage, electrically welded. Basically these high quality extension lights are identical to the wood handle 8000 series, except that the handle is made of rubber. Equipped with red thermoplastic cord and plug.

Cat. No.	Description	Wt. Oz. Each	Price Each
7025	Lamp size 100-w, RS, with 25 ft. Plastic Cord	36	**$7.10**
7025R	7025 with Reflector	38	**7.30**
7025S	7025 with Levolier Switch	36	**7.40**
7025SR	7025 with Reflector and Levolier Switch	38	**7.70**
7050	Lamp size 100-w, RS, with 50 ft. Plastic Cord	52	**10.20**
7050R	7050 with Reflector	54	**10.40**
7050S	7050 with Levolier Switch	52	**10.50**
7050SR	7050 with Reflector and Levolier Switch	54	**10.70**

McGILL PORTABLE SERVICE LIGHTS

Approved by Underwriters' Laboratories, Inc.

No. 5000-LR SERIES SERVICE LIGHTS



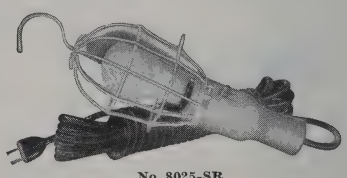
No. 5025-SLR

The 5025-SLR throws light ahead to those hard to get at places and concentrates light at close range for greater efficiency in portable lighting. A 15-amp. 125-volt, Underwriters' Laboratories approved, convenience outlet in the impact resisting plastic handle provides a handy outlet for power tool connection around garages, machine shops, maintenance departments, etc. Heavy zinc plated steel wire cage with end lens—keyless or Levolier socket—lamp size 100-watt rough service. Equipped with either 25 or 50 ft. of red thermoplastic cord and plug.

Cat. No.	Description	Wt. Oz. Each	Price Each
5025LR	Lamp size 100-w, RS, with Keyless Socket, Lens, Reflector and 25 ft. Plastic cord	33	**$10.40**
5025SLR	5025LR with Levolier Switch	33	**10.90**
5050LR	5025LR with 50 ft. Plastic cord	49	**13.40**
5050SLR	5050LR with Levolier Switch	49	**13.80**

No. 8000 SERIES SERVICE LIGHTS

Hard Wood Handle—Closed End Cage



No. 8025-SR

This high quality service light has well shaped polished wood handle. It is of rugged construction for long life and has a heavy steel wire zinc plated cage with No-Rol feature. Various models are offered with either 25 or 50 ft. of red thermoplastic cord and plug.

Cat. No.	Description	Wt. Oz. Each	Price Each
8025	Lamp size 100-w, RS, with 25 ft. Plastic Cord	32	**$7.00**
8025R	8025 with Reflector	34	**7.20**
8025S	8025 with Levolier Switch	32	**7.30**
8025SR	8025 with Reflector and Levolier Switch	34	**7.50**
8050	Lamp size 100-w, RS, with 50 ft. Plastic Cord	46	**10.10**
8050R	8050 with Reflector	48	**10.30**
8050S	8050 with Levolier Switch	46	**10.40**
8050SR	8050 with Reflector and Levolier Switch	48	**10.60**

McGILL PORTABLE LAMP GUARDS

Approved by Underwriters' Laboratories, Inc.

No. 3006 SERIES PORTABLE LAMP GUARDS

Plastic Handle—Annealed Globe—Steel Wire or Fibre Cage

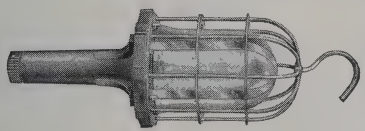
No. 3007

This strong, portable, sealed lamp guard is watertight, dust-tight and moisture-proof. The plastic handle, and fibre cage on the No. 3007 are shock-proof and non-sparking. A rubber gasket placed between the cage and handle absorbs all stress and strain, preventing breakage. The heavy glass protecting globe eliminates possibility of breakage of the lamp bulb inside from splashing liquids. Being airtight these guards are perfectly safe for use where vapor and dust infused air is prevalent. They have no equal for safety, service and convenience around flour mills, paint booths, finishing rooms, airports, warehouses, food processing plants, shipyards, aboard ships, and many other places.

Cat. No.	Description	Wt. Oz. Each	Price Each
3006	Lamp size max. 60-w, Steel Cage, Keyless Socket	36	**$11.00**
3006R	No. 3006 with Reflector	38	**12.60**
3007	Lamp size max. 60-w, Fibre Cage, Keyless Socket	33	**12.60**

3002 and 3005 SERIES PORTABLE LAMP GUARDS

Plastic Handle—Annealed Globe Brass Wire Cage



No. 3005

The 3005 is a heavy duty vaporproof portable with $\frac{1}{16}$-inch hard brass bands to hold the glass globe rigid. The $\frac{3}{16}$-inch thick glass globe seals against a shoulder on a pliable rubber gasket.

Its fire resisting, breakproof plastic handle uses a grounded 660-watt, 250-volt socket. Has a pliable rubber gasket that squeezes around wire and in handle recess to seal out air, moisture and vapor.

Perfectly safe for use when vaporproof and dust-infused air is encountered.

Cat. No.	Description	Wt. Oz. Each	Price Each
3002	Lamp size max. 60-w, Keyless, Grounded Socket	50	**$17.50**
3002R	No. 3302 with Reflector	52	**19.70**
3005	Lamp size max. 100-w, Keyless, Grounded Socket	63	**19.20**
3005R	No. 3005 with Reflector and Grounded Socket	65	**21.40**

McGILL LAMP GUARDS

LOXON LOCKING LAMP GUARDS

No. 1426

Prevent theft and breakage of lamps—lock them on with McGill LoXon Guards. Easily attached and locked with key. Made of steel wire, heavily tinned, available in sizes to fit all sockets and for regular and mill type lamps. Key fits two triangular head screws protected by collars just large enough to admit key only. Guard bottoms are closed, making use of key necessary for removal.

Used in garages, factories, yards, shops, basements, closets, securing double protection against breakage and unauthorized removal.

Cat. No.	Lamp Size	Description	Wt. Oz. Per Doz.	Price Each
1420	60W	for Brass Socket	2½	**$0.90**
1420-A	60W	for W.P. Socket "A"	2¾	**.90**
1420-B	60W	for W.P. Socket "B"	3¼	**.90**
1426	100W	for Brass Socket	3	**.94**
1428-A	100W	for W.P. Socket "A"	3	**.94**
1428-B	100W	for W.P. Socket "B"	3½	**.94**
2444	200W	for Brass Socket	4	**1.10**
2446-A	200W	for W.P. Socket "A"	4¼	**1.10**
2446-B	200W	for W.P. Socket "B"	4¾	**1.10**
		With Reflectors		
1400	60W	for Brass Socket	3½	**1.14**
1401-A	60W	for W.P. Socket "A"	3¾	**1.14**
1443	75W	for Brass Socket	4½	**1.20**
1444-A	75W	for W.P. Socket "A"	4½	**1.20**

Three keys furnished with each dozen guards. Extra keys are **$0.10** each or **$0.80** per dozen.

GRIPON NON-LOCKING LAMP GUARDS

These guards are the same in construction as LoXon guards, except that the key locking device is replaced with plain steel screws. Full protection against breakage. Easily detached for lamp renewal. Gripon guards are built of heavily tinned steel wire, made to withstand hard use and abuse. For both regular and mill type lamps, brass shell and W.P. sockets.

No. 1608

Cat. No.	Lamp Size	Description	Wt. Lbs. Per Doz.	Price Each
1608	60W	for Brass Socket	2½	**$0.82**
1608-A	60W	for W.P. Socket "A"	2¾	**.82**
1608-B	60W	for W.P. Socket "B"	3¼	**.82**
1601	100W	for Brass Socket	3	**.90**
1603-A	100W	for W.P. Socket "A"	3	**.90**
1603-B	100W	for W.P. Socket "B"	3½	**.90**
1605	200W	for Brass Socket	4	**1.04**
1606-A	200W	for W.P. Socket "A"	4¼	**1.04**
1606-B	200W	for W.P. Socket "B"	4¾	**1.04**
		With Reflectors		
1610	60W	for Brass Socket	3½	**1.10**
1611-A	60W	for W.P. Socket "A"	3¾	**1.10**
1620	75W	for Brass Socket	4½	**1.16**
1621-A	75W	for W.P. Socket "A"	4½	**1.16**

All LoXon and Gripon Guard Numbers followed by "A" fit Weather Proof Sockets with bottom bead measuring 1⅞" to 1$\frac{11}{16}$" in extreme diameter; Numbers followed by "B" fit 1¾" extreme diameter.

All Protector "O," LoXon, Gripon, and Wall and Receptacle Guards may be assorted to make up quantity.

PRoTEX PORTABLE LAMPS

PRoTEX RUBBER HANDLES ONLY

No. 1173

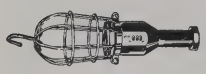
No. 1174

No. 1175

A high grade, oil resisting rubber handle in three types to fit all Protex guards.

Cat. No.	Description	Std. Pkg.	Price Each
1173	Protex Handle	30	$2.00
1174	Protex Handle for Key Socket	30	2.30
1175	Protex Handle with Side Outlet	30	3.40

No. "500" LINE PORTABLE HAND LAMPS



A Portable Hand lamp for the average user. Made in all popular sizes, 25 to 100 watts.

Consists of heavy duty guard, bakelite weatherproof socket and heavy rubber handle.

	No Reflector				With Reflector			
Watts	Closed End	Price Each	Open End	Price Each	Closed End	Price Each	Open End	Price Each
60	500	$2.35	508	$2.40	504	$2.60	512	$2.65
25-40	501	2.30	509	2.35	505	.....	513	.....
75-100	502	2.40	510	2.45	506	2.65	514	2.70

Equipped with Cord and Cap

No. 523 Consists of No. 500 with 25 ft. of No. 18-2SJ cord and cap $5.45

No. 524 Consists of No. 500 with 25 ft. of No. 18-2S cord and cap 6.95

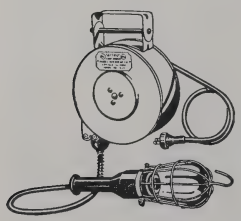
For additional lengths of cord add to list: #18-2SJ, $0.12 per ft.; /18-2S, $0.18 per ft.

MINIATURE INSPECTION LIGHT

Oil-proof handle and cord set with removable fibre guard. Ideal when servicing business machines, etc. Operates on 110 volt.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
611	7-watt Inspection Light	5	50	30	$2.95
612	15-watt Inspection Light	5	50	31	4.60

SAFEWAY CORD REEL



Available in two lengths, 25 ft. and 45 ft. Uses No. 16-2 SJ Neoprene cord. Oversize spring and bearings with roller outlet for smooth, easy operation. Listed without Portable Hand Lamp.

Cat. No.	Description	Carton	Std. Pkg.	Pkg. Wt.	Price Each
1925	25 ft. Reel—no unit	2	6	52	$35.00
1945	45 ft. Reel—no unit	2	6	75	45.00

SAFEWAY LO-VOLTAGE PORTABLE

The ultimate in portable lighting units where electrical hazards exist due to dampness. A step down transformer is inserted in the line resulting in a low secondary voltage that assures the user of complete safety regardless of moisture conditions. Complete unit is made from NEOTEX synthetic rubber including cord, transformer cover, handle and plug cap. Oil, grease, most chemicals will not affect the unit. Available in longer secondary lengths than listed and also available with vaporproof or non-vaporproof handle.

Transformer capacity, 75 watts. Voltage: Primary, 110; secondary, 6. 110, 60 cycle; 1 in a standard package.

Wired Complete with PRoTEX Unit

Cat. No.	Length, Feet Primary	Length, Feet Secondary	Reflector	Wt. Lbs. Each	Price Each
1600	10	20	no	12	$80.20
1601	10	20	yes	12	81.10

Wired Complete with VAPRoTEX Unit with Steel Guard

Cat. No.	Length, Feet Primary	Length, Feet Secondary	Sealing Gland	Wt. Lbs. Each	Price Each
1620	10	20	no	14	$90.80
1621	10	20	yes	14	92.60

Wired Complete with VAPRoTEX Unit with Aluminum Guard

1630	10	20	no	14	$103.95
1631	10	20	yes	14	105.75

Additional cable lengths are obtainable within the output capacity of the transformer.

While only the 110 to 6 volt stepdown is listed, other combinations are available: 110 to 12 volts, 110 to 32 volts, 220 to 6 volts, 200 to 12 volts and 220 to 32 volts.

All Lo-Volt transformer units come equipped with 50-watt lamps.

SAFEWAY 4-WAY LOVOLT

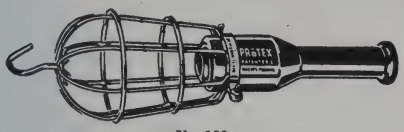
Low voltage protection for more than one operator. Four light units can be used simultaneously. Individually fused circuits, watertight construction. Listed complete with primary cord only.

Secondary cord sets available on request. Size depends on secondary voltage.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
1640	4-Way Lovolt	1	40	$335.00

PRoTEX PORTABLE LAMPS

PRoTEX RUBBER HANDLE PORTABLE LAMPS



No. 100

Protex Portable Lamps are designed to meet exacting safety requirements. The handle is made of oil-proof synthetic Neotex rubber; socket is of molded rubber and is watertight; guard is made of heavy steel wire, spot-welded at all joints and heavily cadmium-plated to prevent rusting. These lamps include handle, socket and guard with hook, and are supplied with or without reflector.

		No Reflector			With Reflector		
Watts	Std. Pkg.	Closed End	Open End	Price Each	Closed End	Open End	Price Each
60	30	100	108	$4.20	104	112	$5.10
25-40	30	101	109	3.95	105	113	-------
100	30	102	110	4.50	106	114	5.40
200	30	103	111	7.30	107	115	8.70
60	12	†123	------	10.85	------	------	-------

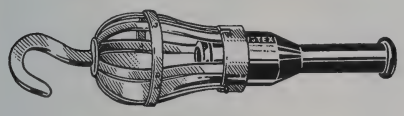
If Hook is not desired, so specify, and deduct **$0.25** from list price. If Ground Clip is desired, so specify, and add **$0.50** to list price. If Key Socket is desired, specify so, and add **$0.80** to list price.

If rubber covering is required on Protex Guards, add letter "I" to catalog number and add to list **$3.50**.

†Consists of No. 100 Portable Lamp, 25 feet No. 18-2 conductor, Type S Heavy Duty, Underwriters' Approved, all-rubber cord and Safeway Heavy Duty Rubber Plug. For additional lengths of cord on No. 123 add to list **$0.35** per ft.

RUBBER HANDLE PORTABLE LAMPS

With Fibre Insulated Guards



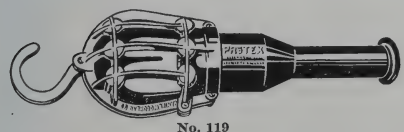
No. 117

Consists of rubber handle, keyless socket and screwless type closed end, fibre guard with hook and with or without reflector.

Cat. No.	Description	Lamp Watts	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
117R	With Reflector	75	30	35	**$7.25**
117	No Reflector	75	30	34	**6.75**
118R	With Reflector	60–100	30	37	**8.50**
118	No Reflector	60–100	30	36	**7.95**

RUBBER HANDLE PORTABLE LAMPS

With Bakelite Insulated Guards

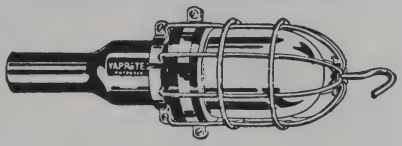


No. 119

Sturdy molded bakelite construction. Designed for applications where insulation and small size is necessary.

Cat. No.	Description	Lamp Watts	Std. Pkg.	Wt.Lbs. Std. Pkg.	Price Each
119	No Reflector	25-40	30	36	**$7.70**
120	With Reflector	25-40	30	38	**8.20**

VAPRoTEX PORTABLE LAMPS



Recommended for illumination purposes where gas, dust and other explosives exist. When properly assembled they may be used in the most hazardous locations with absolute safety. Lamps include synthetic rubber Neotex handle, Neotex socket, heat and temperature-resisting glass globe and with steel wire or aluminum guard.

		With Steel Wire Guards			With Non-Sparking Aluminum Guards		
Watts	Std. Pkg.	Cat. No.	Pkg. Wt.	Price Each	Cat. No.	Pkg. Wt.	Price Each
60-75	12	**1200**	36	**$14.80**	**1204**	44	**$27.95**
100	12	**1201**	38	**16.00**	**1205**	48	**30.15**
60-75	12	***1202**	40	**16.60**	***1206**	46	**29.75**
100	12	***1203**	42	**17.80**	***1207**	51	**31.95**

*With stuffing box in handle.

Ground clip for third wire for any of above, type "CLIP," **$0.50** list each.

Vaprotex Wire Guards with Rubber Covering—If desired, specify the letter (I) after any of the above wire guard types and add **$5.25**.

GLASS GLOBES ONLY

For Vaprotex Portable Lamps

Cat. No.	Description	Watts	Std. Pkg.	Pkg. Wt.	Price Each
1252	Heat-Resisting Glass	60–75	12	14	**$3.50**
1253	Heat-Resisting Glass	100	12	18	**3.90**

VAPRoTEX BUNGHOLE LAMPS

No. 1300

No. 1301

The Vaprotex Bunghole Lamp is a vaporproof lighting unit for inspecting gasoline, oil, chemical and other drums used for explosives. Made of non-sparking metal throughout. Regularly furnished with a 15-watt, 120-volt Mazda lamp. Equipped with high heat-resisting glass globes. Can be had with spear if desired.

Cat. No.	Watts	Lgth. Inches	Outside Diam.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
1300	15	30	1½	1	4	**$34.00**
1301	15	12	1½	1	3	**29.00**

PRoTEX BUNGHOLE LAMP

A non-vaporproof lighting unit for inspecting beer, lard, syrup and other barrels used for non-explosive solutions. Furnished with a 15-watt, 120-volt Mazda lamp.

It is exceptionally suitable for use in brewery wash-houses as pieces of bung and other foreign matter can be removed from barrels by spear.

Cat. No.	Watts	Lgth. Inches	Outside Diam.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
1302	15	30	1	1	3	**$26.00**

None of the above prices includes cord and plug, but these items can be furnished assembled to the lamps, either 2 or 3 conductor cord, at additional costs, furnished upon application.

STANDARD MAGNET BASE SHOP LIGHT

Equipped with 6-inch, 100-W capacity reflector having full 360° adjustment and universal ball swivel clamps.

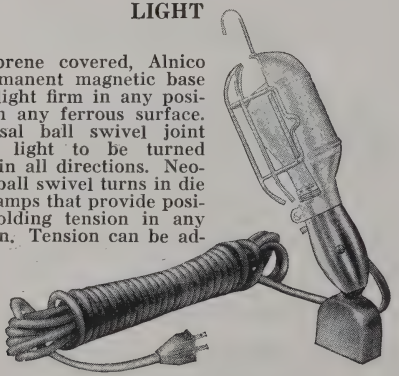
A rugged heavy duty portable magnet base shoplight for precision work areas. No permanent fixture — extension arms — goosenecks to obstruct work or become defective. Extra powerful, Neoprene covered, Alnico V magnet base with maximum holding power on any ferrous metal surface.

With extra flexible Neoprene covered grease and oil resistant Underwriters' approved cord and extra heavy duty oil resistant rubber safety plug and interior strain relief. Available wired to specifications, if desired.

Cat. No.	Description	Shpg. Wt. Lbs.	Price Each
DML	Magnet Base Spotlight without cord or plug	3	**$14.50**
DML-10	Same with 10 feet 18/2 SJO Neoprene cord and plug	4	**16.25**
DML-25	Same with 25 feet 18/2 SJO Neoprene cord and plug	5	**17.95**

STANDARD MAGIC LITE TROUBLE LIGHT

Neoprene covered, Alnico V, permanent magnetic base holds light firm in any position on any ferrous surface. Universal ball swivel joint allows light to be turned easily in all directions. Neoprene ball swivel turns in die cast clamps that provide positive holding tension in any position. Tension can be adjusted.



Equipped with Standard's extra rugged guard with full non-glare reflector, swivel hook, and "Swing Open" feature for immediate bulb replacement. With extra flexible, Underwriters' Laboratories approved, rubber covered wire and molded rubber plug. The 25-ft. lights are packed 6, 12, or 24 package; the 50-ft. lights are packed 6 or 12 package.

Type of Wire	Without Side Outlet No.	Each	With Side Outlet No.	Each	Cord Lgth. Ft.	Wt. Lb. Per 12
18/2 SJ	**ML-25-C**	**$7.25**	**MLSO-25-C**	**$8.25**	25	48
18/2 SJ	**ML-50-C**	**9.25**	**MLSO-50-C**	**10.25**	50	62

JACK CHAIN

STEEL OR BRASS

No. 14

No. 12

No. 10

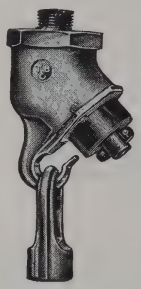
Chain No.	W. & M. Wire Gauge	Approx. Tensile Strength, Pounds Steel	Brass	Approx. Weight Per 1000 Ft. Lbs. Steel	Brass
14	.0800	55	35	5.0	5.1
12	.1055	113	85	8.25	9.1
10	.1350	180	160	13.4	15.0

Packed 50 ft. in a carton — 500 ft. on a reel.

T & B RIGID CONDUIT FITTINGS

DISCONNECT HANGER ASSEMBLY

Listed Under Reexamination Service of Underwriters' Laboratories



These Hangers provide a safety disconnect for light and power circuits. Designed primarily for Mercury Vapor Lighting Units, they can be used equally well with other types of industrial lighting fixtures.

Each Hanger consists of a Locking Hook with 10-amp., 250-volt polarized receptacle and a Bushed Loop. Made of tough malleable iron, they support the fixture or pendant outlet and cannot be unhooked until the plug is out and the fixture "dead." The plug closes the hook so the loop cannot be removed while the plug is in place.

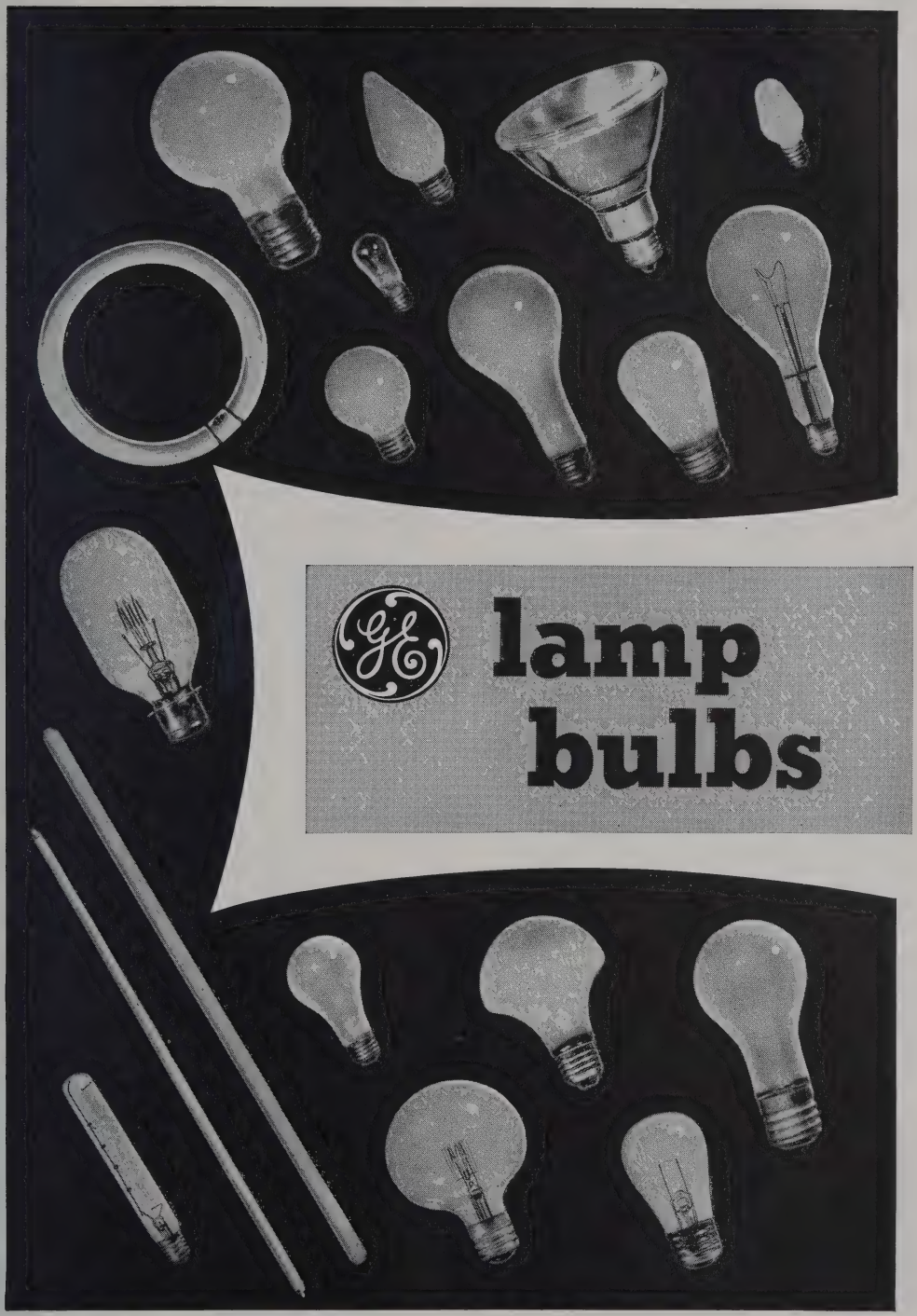
To unhook for either cleaning the fixture or replacing burnt out bulbs, simply pull out plug and lift the loop over the open hook.

The loops have standard ½-inch female threads. They are easily transformed to the same size male threads by use of a close nipple. The ½-inch male threads on the Locking Hooks can be converted to female thread by use of a standard conduit coupling.

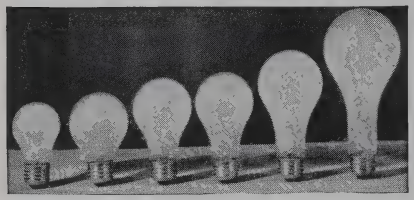
Cat. No.	Description	Std. Pkg.	Wt. Lbs. Per 100	Price Each
6140	Complete Assembly	10	100	**$8.80**

SEPARATE PARTS

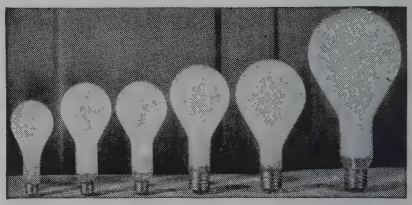
Cat. No.	Thread Size	Description	Std. Pkg.	Wt. Lbs. Per 100	Price Each
		Hooks for Use with Loops Listed Below			
6150	½"	2-w. receptacle	10	90	**$ 8.00**
6151	¾"	2-w. receptacle	10	95	**8.80**
6152	½"	3-w. receptacle	10	115	**16.80**
6153	¾"	3-w. receptacle	10	120	**17.60**
		Loops for Use with Hooks Listed Above			
785	½"	Non-cushion	10	20	**.95**
786	¾"	Non-cushion	10	30	**1.60**
805	½"	3– 6 lbs. cushion	10	45	**5.90**
806	½"	6–12 lbs. cushion	10	45	**6.40**
807	½"	12–24 lbs. cushion	10	45	**6.90**


lamp
bulbs

GENERAL ELECTRIC LAMPS



15W 25W 40W 50, 60 75W 100W 150W



150W 200W 300W (Med.) 300W (Mog.) 500W 750W 1000W

115, 120, and 125 Volts

GENERAL ELECTRIC INSIDE FROSTED LAMPS

For most general lighting purposes. Inside frosting diffuses the light and helps eliminate shadows and glare. Light output is practically the same as for clear lamps. Outside surface is smooth and easily cleaned.

Watts	Bulb	Base	Max. Over-all Lgth. Inches	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
15	A-15	Med.	3½	15A15	120	$0.13
25	A-19	Med.	3 15/16	25A	120	.13
40	A-19	Med.	4¼	40A	120	.14
50	A-19	Med.	4 7/16	50A	120	.14
60	A-19	Med.	4 7/16	60A	120	.14
75	A-19	Med.	4 7/16	75A	120	.16
100	A-21	Med.	5 5/16	100A	120	.16
150	PS-25	Med.	6 5/16	150	60	$0.20
200	PS-30	Med.	8 1/16	200/IF	60	.27
300	PS-30	Med.	8 1/16	300M/IF	60	.40
300	PS-35	Mog.	9 3/8	300/IF	24	.70
500	PS-40	Mog.	9¾	500/IF	24	1.00
750	PS-52	Mog.	13 1/16	750/IF	6	3.05
1000	PS-52	Mog.	13 1/16	1000/IF	6	3.30

G-E DAYLIGHT LAMPS

Produce light approximating daylight. Used where color discernment is important.

10	S-14 Cl.	Med.	3½	10S14/D	120	$0.30
25	A-19 Cl.	Med.	3 15/16	25A/D	120	.30
60	A-19 I.F.	Med.	4 7/16	60A/D	120	.25
100	A-23 I.F.	Med.	6 1/16	100A/D	120	.30
150	PS-25 Cl.	Med.	6 5/16	150/DCL	60	.40
150	PS-25 I.F.	Med.	6 5/16	150/D	60	.45
200	PS-30 Cl.	Med.	8 1/16	200/D	60	.70
200	PS-30 I.F.	Med.	8 1/16	200/DIF	60	.75

G-E CLEAR LAMPS

Used in enclosed diffusing equipment or shielded reflectors which protect the eyes from glare.

150	PS-25	Med.	6 5/16	150/CL	60	$0.20
200	PS-30	Med.	8 1/16	200	60	.27
300	PS-30	Med.	8 1/16	300M	60	.40
300	PS-35	Mog.	9 3/8	300	24	.65
500	PS-40	Mog.	9¾	500	24	.95
750	PS-52	Mog.	13 1/16	750	6	2.90
1000	PS-52	Mog.	13 1/16	1000	6	3.10
1500	PS-52	Mog.	13 1/16	1500	6	4.75

DISCOUNT SCHEDULE

TO PURCHASERS WITHOUT CONTRACT

Minimum List Value for Immediate Delivery to One Point:	Discount
Less than $5.00	0%
$ 5.00	20%
$15.00 or a Standard Package	25%

A standard package of large lamps is defined as a package, as packed by the manufacturer, of that "Standard Package Quantity" designated for each lamp in the manufacturer's price schedule, and the lamps in such a standard package may not be of different specifications.

To Purchasers Under Contract		Discount for Immediate Delivery to One Point		
Basis (Net Value of Purchases) of Form E or CE Contract	$ 300	On a purchase of $15 or more list value or on a purchase of less than $15 list value which includes a standard package.	26%	On purchases of broken packages amounting to less than $15 list value.
	600		28%	
	1,500		30%	
	3,500		32%	
	7,500		33%	
	15,000		34%	
	20,000		35%	
	35,000		36%	
	65,000		37%	
	100,000		38%	
	150,000		39%	
	200,000		40%	

21%	23%	25%	27%	28%	29%
30%	31%	32%	33%	34%	35%

HOW TO ORDER

Order by Lamp Ordering Abbreviations. Correct voltage must be specified except for Series, Fluorescent, Sun, Mercury, Glow, Miniature and Photo Lamps. For lamps not specifically listed specify Size, Volts or Amps. Bulb. Base. Finish and Service.

BULB SHAPES

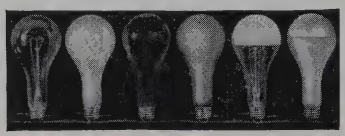
C – Cone
S – Straight side
P – Pear shape
F – Flame shape
G – Globe shape
T – Tubular
R – Reflector shape
PS – Pear straight neck
A – Standard line
PAR – Parabolic

BULB DESIGNATIONS

The letter in a bulb designation indicates its shape and the figure indicates its approximate diameter in eighths of an inch. Thus, a G-25 is a globular bulb approximately 3⅛ inches in diameter.

BULB FINISHES

Clear | Inside Frosted | Clear Daylight | Frosted Daylight | White Bowl | Silvered Bowl



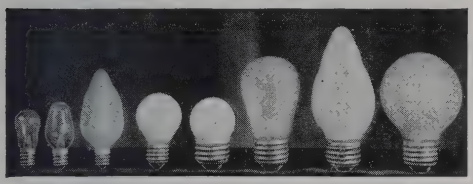
BASE TYPES

* List Prices do not include Federal Excise Tax.

GENERAL ELECTRIC LAMPS

115, 120, 125 Volts Unless Otherwise Noted.

G-E SIGN AND DECORATIVE LAMPS



6S6 7C7 15F10 10S11 7½S11 10S14 25F15 25G18½

Inside colored (I.C.) lamps are particularly adaptable to exposed lamp signs and colorful displays. Outside coated (O.C.) flameshape and round bulb lamps are used where the bulb shape is related to the artistic design of the luminaire.

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
6	S-6 Clear	Cand.	6S6	120	$0.16
7	C-7 Clear	Cand.	7C7	120	.12
7	C-7 White (Nite Light)	Cand.	7C7/W	120	.14
7	C-7 O. C. Red	Cand.	7C7/R	120	.13
10	S-11 Clear	Inter.	10S11N	120	.16
10	S-11 White	Inter.	10S11N/CW	120	.21
7½	S-11 O. C. White	Med.	7½S/W	120	.16
7½	S-11 O. C. Red	Med.	7½S/R	120	.16
10	S-14 Clear	Med.	10S14	120	.15
10	S-14 I. F.	Med.	10S14/IF	120	.15
25	A-19 Colored②	Med.	25A/①	120	.18
60	A-19 Yellow	Med.	60A/Y	120	.19
100	A-21 Yellow	Med.	100A21/61Y	120	.26

① Substitute color symbol in place of ① in ordering abbreviation, thus: 25A/B.

② Colors: blue (B), flametint (FT), green (G), ivory (V), orange (O), red (R), rose (R2), and yellow (Y).

15	F-10 O. C.①	Cand.	15FC/①	60	$0.22
25	F-15 Clear	Med.	25F	120	.18
25	F-15 O. C.①	Med.	25F/①	120	.18
25	G-18½ O. C. White	Med.	25G18½/W	120	.30
40	G-25 O. C. White	Med.	40G/W	60	.35

Outside coated lamps not recommended for outdoor use.

① Colors: flametint (FT), white (W), ivory (V). Substitute color symbol in place of ① in ordering abbreviation, thus: 15FC/V.

G-E THREE-LITE LAMPS

Give three levels of lighting. Used generally in table and floor lamps. Three contact bases.

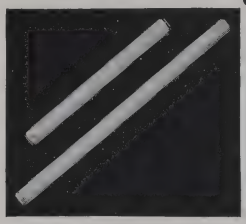
30 70 100	A-21 I. F.	Med.	30/100	120	$0.30	
50 100 150	PS-25 I. F.	Med.	50/150M	60	.36	
50 100 150	PS-25 I. F.	Mog.	50/150	60	.48	
100 200 300	G-30 White	Mog.	100/300	60	.60	50/150

G-E COUNTRY HOME LAMPS

(30 Volts)

15	A-17 I. F.	Med.	15A	120	$0.20
25	A-19 I. F.	Med.	25A	120	.20
50	A-21 I. F.	Med.	50A21	120	.20
100	A-23 I. F.	Med.	100A	120	.33

*** List Prices do not include Federal Excise Tax.**



GENERALELECTRIC LUMILINE LAMPS

These lamps provide continuous lines of clear or colored light of low brightness. They are ideally suited to modern decorative concepts for built-in illumination or applied decoration; for displays, niches, mirrors, and the like.

Watts	Bulb and Finish	Base	Max. Over-all Length, Inches	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
40	T-8 Clear	Disc	11¾	L40	24	$1.05
40	T-8 I. F.	Disc	11¾	L40/IF	24	1.10
40	T-8 White	Disc	11¾	L40/W	24	1.10
40	T-8 Straw	Disc	11¾	L40/ST	24	1.10
60	T-8 Clear	Disc	17¾	L60	24	1.20
60	T-8 I. F.	Disc	17¾	L60/IF	24	1.25
60	T-8 White	Disc	17¾	L60/W	24	1.25
60	T-8 Straw	Disc	17¾	L60/ST	24	1.25

G-E SILVERED BOWL LAMPS

Used with indirect lighting equipment. Have inside frosted bulb with coating of mirrored silver on the bowl.

60	A-19	Med.	4 7/16	60A/SB	120	$0.28
100	A-23	Med.	6 1/16	100A/SB	120	.30
150	PS-25	Med.	6 1/16	150/SB	60	.45
200	PS-30	Med.	8 1/16	200/SBIF	60	.67
300	PS-35	Mog.	9 5/8	300/SBIF	24	1.20
500	PS-40	Mog.	9¾	500/SBIF	24	1.70

G-E INSIDE WHITE BOWL LAMPS

White enamel coating redirects about 80% of light upwards. Used in open type direct lighting fixtures.

150	PS-25	Med.	6 1/16	150/WB	60	$0.25
200	PS-30	Med.	8 1/16	200/WB	60	.32
300	PS-35	Mog.	9 5/8	300/WB	24	.70

G-E WHITE LAMPS

Gives almost perfect light diffusion, is clean and white in appearance — ideal for reading lamps.

100	A-21	Med.	5 5/16	100A/W	120	$0.21

G-E APPLIANCE LAMPS

T7 T8

Candelabra Screw Base					
10	C-7 Clear	2⅛	10C7	120	$0.15
D. C. Bayonet Candelabra Base					
10	C-7 Clear	2 4/16	10C7DC	120	$0.16
15	T-7 Clear	2⅝	15T7DC	60	.25
25	T-8 Clear	2⅝	25T8DC	60	.25
Medium Screw Base					
40	A-15 I.F.	3¾	40A15/1	120	.15
40	A-15 Clear	4	40A15/22	120	.25

GENERAL ELECTRIC LAMPS

G-E GENERAL LINE FLUORESCENT LAMPS

Lower wattage fluorescent lamps, 6 to 20 watts, are used for showcases, niches, bed lamps, etc., where space is small or where low amounts of light are desired. Higher wattage lamps, 30 to 85 watts are used in homes, stores, offices, industrial plants and other applications of general lighting.

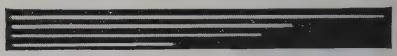
F14T12
F15T8
F15T12
F20T12
F30T8
F40T12
F85T17

Bulb	Nom. Lamp Watts	Color♦	Lamp Ordering Abbrev.	Std. Pkg. Qty.	*List Price
Miniature Bipin Base					
9″—T-5 (⅝″ diam.)	6	Standard Cool Wh.	F6T5/CW	24	$0.85
		White	F6T5/W	24	.85
		Daylight	F6T5/D	24	.85
12″—T-5 (⅝″ diam.)	8	Standard Cool Wh.	F8T5/CW	24	.95
		White	F8T5/W	24	.95
		Daylight	F8T5/D	24	.95
21″—T-5 (⅝″ diam.)	13	Standard Cool Wh.	F13T5/CW	24	1.05
		White	F13T5/W	24	1.05
Medium Bipin Base					
15″—T-12 (1½″ diam.)	14	Standard Cool Wh.	F14T12/CW	24	.85
		Standard Warm Wh.	F14T12/WW	24	.85
		White	F14T12/W	24	.85
18″—T-8 (1″ diam.) ①	15	Standard Cool Wh.	F15T8/CW	24	.70
		De Luxe Cool Wh.	F15T8/CWX	24	†
		Standard Warm Wh.	F15T8/WW	24	.70
		De Luxe Warm Wh.	F15T8/WWX	24	†
		White	F15T8/W	24	.70
		Daylight	F15T8/D	24	.70
		Soft White	F15T8/SW	24	.80
18″—T-12 (1½″ diam.)	15	Standard Cool Wh.	F15T12/CW	24	.85
		De Luxe Cool Wh.	F15T12/CWX	24	†
		Standard Warm Wh.	F15T12/WW	24	.85
		De Luxe Warm Wh.	F15T12/WWX	24	†
		White	F15T12/W	24	.85
		Daylight	F15T12/D	24	.85
		Soft White	F15T12/SW	24	.95
24″—T-12 (1½″ diam.) ①	20	Standard Cool Wh.	F20T12/CW	24	.85
		De Luxe Cool Wh.	F20T12/CWX	24	†
		Standard Warm Wh.	F20T12/WW	24	.85
		De Luxe Warm Wh.	F20T12/WWX	24	†
		White	F20T12/W	24	.85
		Daylight	F20T12/D	24	.85
		Soft White	F20T12/SW	24	.95
36″—T-8 (1″ diam.) ①	30	Standard Cool Wh.	F30T8/CW	24	.85
		De Luxe Cool Wh.	F30T8/CWX	24	†
		Standard Warm Wh.	F30T8/WW	24	.85
		De Luxe Warm Wh.	F30T8/WWX	24	†
		White	F30T8/W	24	.85
		Daylight	F30T8/D	24	.85
		Soft White	F30T8/SW	24	.95
48″—T-12 (1½″ diam.) ①	40	Standard Cool Wh.	F40T12/CW	24	1.05
		De Luxe Cool Wh.	F40T12/CWX	24	1.25
		Standard Warm Wh.	F40T12/WW	24	1.05
		De Luxe Warm Wh.	F40T12/WWX	24	1.25
		White	F40T12/W	24	1.05
		Daylight	F40T12/D	24	1.05
		Soft White	F40T12/SW	24	1.15
48″—T-12 (1½″ diam.)	40	Std. Cool Wh. ②	F40T12/CW/IS	24	1.20
		Std. Warm Wh. ②	F40T12/WW/IS	24	1.20
		Soft White ②	F40T12/SW/IS	24	1.30
Mogul Bipin Base					
60″—T-17 (2⅛″ diam.)	40	Standard Cool Wh. ③	F40T17/CW/IS/H	12	$2.60
60″—T-17 (2⅛″ diam.)	85	Standard Cool Wh.	F85T17/CW	12	2.60
		Standard Warm Wh.	F85T17/WW	12	2.60
		White	F85T17/W	12	2.60
		Daylight	F85T17/D	12	2.60
		Soft White	F85T17/SW	12	2.80

G-E SLIMLINE FLUORESCENT LAMPS

(Instant Start—No Starters Used)

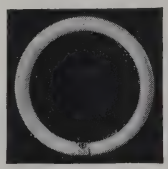
F96T8
F72T8
F64T6
F42T6



G-E Fluorescent lamps, ¾, 1 and 1½ inches in diameter, provide long slim lines of light and are greatly appreciated for their decorative value as well as for their lighting efficiency.

Bulb	Nom. Lamp Watts	Color♦	Lamp Ordering Abbrev.	Std. Pkg. Qty.	*List Price
Single Pin Base					
42″—T-6 (¾″ diam.) ①	18-32	Standard Cool Wh.	F42T6/CW	24	$1.70
		De Luxe Cool Wh.	F42T6/CWX	24	†
		Standard Warm Wh.	F42T6/WW	24	1.70
64″—T-6 (¾″ diam.) ①	26-48	Standard Cool Wh.	F64T6/CW	24	1.95
		De Luxe Cool Wh.	F64T6/CWX	24	†
		Standard Warm Wh.	F64T6/WW	24	1.95
72″—T-8 (1″ diam.) ①	25-48.5	Standard Cool Wh.	F72T8/CW	24	2.20
		De Luxe Cool Wh.	F72T8/CWX	24	†
		Standard Warm Wh.	F72T8/WW	24	2.20
		De Luxe Warm Wh.	F72T8/WWX	24	†
96″—T-8 (1″ diam.) ①	32.5-66	Standard Cool Wh.	F96T8/CW	24	2.90
		De Luxe Cool Wh.	F96T8/CWX	24	†
		Standard Warm Wh.	F96T8/WW	24	2.90
		De Luxe Warm Wh.	F96T8/WWX	24	†
48″—T-12	36	Standard Cool Wh.	F48T12/CW	24	1.55
72″—T-12	54	Standard Cool Wh.	F72T12/CW	12	2.80
96″—T-12 (1½″ diam.)	72	Standard Cool Wh.	F96T12/CW	12	3.50
		De Luxe Cool Wh.	F96T12/CWX	12	†
		Standard Warm Wh.	F96T12/WW	12	3.50
		De Luxe Warm Wh.	F96T12/WWX	12	†

G-E CIRCLINE FLUORESCENT LAMPS



Circline fluorescent lamps have wide use in residential floor and table lamps as well as in commercial and industrial applications.

4-Pin Base					
12″ Circline	32	Standard Cool Wh.	FC12T10/CW	12	$2.25
1¼″ Diam.	32	Standard Warm Wh.	FC12T10/WW	12	2.25

♦ All "Standard Cool White" listings were formerly "4500 White" all "Standard Warm White" listings were formerly "Warm Tint."

† Prices not available at time of going to press.

① Available in blue, green, pink, gold and red.

② For instant start service. No starters used.

③ For instant start service under high humidity conditions. No starters used.

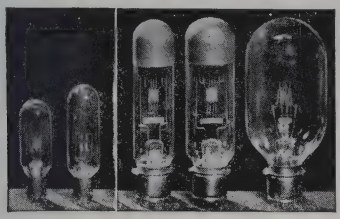
All G-E Fluorescent lamps are for multiple operation and should be used only with auxiliary equipment designed to produce proper electrical values. Lamps may be burned in any position.

*** List Prices do not include Federal Excise Tax.**

GENERAL ELECTRIC LAMPS

PROJECTION AND STEREOPTICON†

115, 120, and 125 Volts



T-8 T-8 T-10 T-12 T-20

G-E Projection lamps are characterized by extreme concentration of light source, made possible by a highly developed technique in the forming, treating and mounting of filaments.

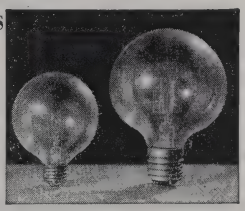
Watts	Bulb and Finish	Lamp Ordering Abbrev. (Exc. Volts)	① Rated Avg. Life, (Hrs.)	Max. Over-all Length, Inches	Avg. Light Center Length, Inches	Std. Pkg. Qty.	*List Price
Single-Contact Bayonet Base							
100	T-8 Cl.	100T8/108SC	50	3 1/8	▲1 3/8	24	$0.70
150	T-8 Cl.	150T8/70	25	3 5/8	▲1 3/8	24	1.30
Medium Prefocus Base							
300	T-10‡	300T10P	25	5 3/4	□2 3/16	24	2.90
500	T-10‡	500T10P	25	5 3/4	□2 3/16	24	3.50
500	T-20 Cl.	500T20P	50	5 3/4	□2 3/16	24	2.75
750	T-12‡	750T12P	25	5 3/4	□2 3/16	24	4.10
1000	T-12‡	1M/T12P	10	5 3/4	□2 3/16	24	6.00
Mogul Prefocus Base							
1000	T-20 Cl.	1M/T20P	50	9 1/2	□3 7/16	12	4.75

‡ Clear bulb with opaque end.
▲ The light center length of this lamp is the distance from center of light source to top of base pins.
■ The light center length of this lamp is the distance from center of light source to top of base fin.
† These lamps are for use only in equipment specially designed to maintain bulb and base temperatures within safe limits.
① Life under specified test conditions.

FLOODLIGHT AND SPOTLIGHT LAMPS

115, 120, and 125 Volts

G-E Floodlight and Spotlight lamps are made with the filament concentrated into a small space and accurately positioned with respect to the base. They may be burned in any position from vertically base down to horizontal.



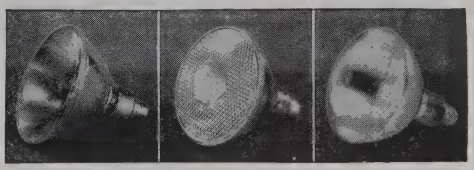
G-30 G-40

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Light Center Length, Inches	Std. Pkg. Qty.	*List Price
FLOODLIGHT LAMPS						
250	G-30 Cl.	Med.	250G/FL	3	60	$1.40
500	G-40 Cl.	Mog.	500G/FL	4 1/4	24	2.55
1000	G-40 Cl.	Mog.	1M/G40FL	5 1/4	24	5.00
SPOTLIGHT LAMPS						
100	A-21 Cl.	Med.	100A21SP	3	120	1.05
250	G-30 Cl.	Med.	250G/SP	3	60	1.40
400	G-30 Cl.	Med.	400G/SP	3	60	1.90
1000	G-40 Cl.	Mog.	1M/G40SP4 1/4	4 1/4	24	5.00

*** List Prices do not include Federal Excise Tax.**

GENERAL ELECTRIC PROJECTOR AND REFLECTOR LAMPS

115, 120, and 125 Volts



Projector Spot Projector Flood Reflector

The Reflector Spot and Flood lamps provide, respectively, a concentrated beam for feature store and window displays, or a spread beam for floodlighting interiors and operations. Not for outdoor use.

The Projector Spot and Flood offer the same type of service. Being made of hard glass, they may be used indoors, or outdoors—wherever reflectors must be free from effects of weather, vapor, dust, and deterioration.

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
§GENERAL ELECTRIC PROJECTOR LAMPS					
†150	PAR-38	Med. Skt.	150PAR/SP	12	$1.55
†150	PAR-38	Med. Skt.	150PAR/FL	12	1.55
GENERAL ELECTRIC REFLECTOR LAMPS					
75	R-30 Light I.F.	Med.	75R30/SP	60	1.05
75	R-30 I.F.	Med.	75R30/FL	60	1.05
150	R-40 Light I.F.‡	Med.	150R/SP	24	1.05
†300	R-40 Light I.F.‡	Med.	300R/SP	24	1.55
150	R-40 I.F.‡	Med.	150R/FL	24	1.05
†300	R-40 I.F.‡	Med.	300R/FL	24	1.55

† Should be burned only in porcelain sockets.
§ Lamps are suitable for both outdoor and indoor use.
‡ May not give satisfactory performance if any accessory lighting equipment is attached to, or touches, the glass bulb.

G-E ROUGH SERVICE AND VIBRATION LAMPS

115, 120, and 125 Volts

This lamp withstands shock and bumps, such as received when used as a portable light on extension cord.

Watts	Bulb and Finish	Base	Max. Over-all Length, Inches	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
50	A-19 I.F.	Med.	3 15/16	50A/RS	120	$0.25
100	A-23 I.F.	Med.	6 1/16	100A/RS	120	.35

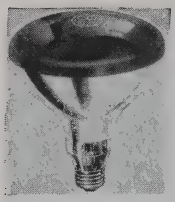
The Vibration lamp is designed to withstand high frequency vibration, as from high-speed machinery.

50	A-19 I.F.	Med.	3 15/16	50A/VS	120	$0.20
100	A-23 I.F.	Med.	6 1/16	100A23/28	120	.35

G-E HIGH VOLTAGE LAMPS (230 and 250 Volts)

25	A-19 I.F.	Med.	3 15/16	25A	120	$0.18
50	A-19 I.F.	Med.	3 15/16	50A	120	.18
100	A-23 I.F.	Med.	6 1/16	100A	120	.24
200	PS-30 Cl.	Med.	8 1/16	200	60	.50
200	PS-30 I.F.	Med.	8 1/16	200/IF	60	.55
300	PS-35 Cl.	Mog.	9 3/8	300	24	.85
500	PS-40 Cl.	Mog.	9 3/4	500	24	1.40
750	PS-52 Cl.	Mog.	13 1/16	750	6	3.50
1000	PS-52 Cl.	Mog.	13 1/16	1000	6	3.75

GENERAL ELECTRIC LAMPS



G-E INFRARED HEAT LAMPS †

115–125 Volts (Design Volts 115)

G-E Heat lamps provide penetrating heat that helps to relieve muscular aches and pains. Have many other uses in home and farm for quick drying and heating.

250R40/10

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	List Price
250	R-40 Light I.F.	Med.	250R40/1	24	$1.10
• 250	R-40 Red bowl	Med.	250R40/10	24	2.95

G-E INFRARED INDUSTRIAL LAMPS†

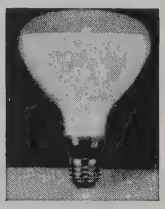
115-125 Volts (Design Volts 115)

Radiation from G-E industrial lamps speeds drying and surface heating processes and facilitates today's trend toward straight-line, continuous-flow production.

G-30 R-40

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	List Price
250	G-30 Clear	Md.Sk.	250G30	60	$0.80
250	R-40 Light I.F.	Md.Sk.	250R40/4	24	1.25
375	R-40 Light I.F.	Md.Sk.	375R40	24	1.50

G-E SUNLAMPS †



RS

Sunlamps are usually employed in portable-type lamps and fixtures for homes, offices and similar locations; in various types of farm units for irradiating animals and poultry and in Solaria.

RS. Type RS, is in a bulb with self-contained reflector, and operates directly from 50-60 cycle, 110-125 volt A.C. current with no auxiliary ballast required.

Watts	Bulb	Finish	Base	Lamp No.	Std. Pkg. Qty.	List Price
•275	R-40	I.F. Reflector	Med.	RS	6	$8.50

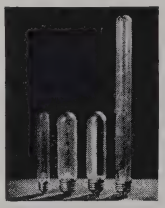
• The Schedule of Discounts to Purchasers Without Contract does not apply to this lamp. A discount of 25% of list will be allowed on noncontract purchases of one or more standard packages of this lamp, but no discount will be allowed on less than standard package quantities even if purchased with standard packages.

† Not subject to Federal Excise Tax.

G-E GERMICIDAL LAMPS †

Germicidal lamps transmit ultraviolet energy in wavelengths most effective in destroying bacteria and molds. They have wide application in hospitals, schools and other places where the control of air and surface bacteria is of greatest public concern. They are used also to provide sterile storage for foods, pharmaceuticals and other product protection. Germicidal lamps should be properly installed in correctly designed fixtures to give proper distribution of ultraviolet for air disinfection.

Watts	Bulb	Base	U-V Output Watts	Lamp Ordering Abbrev.	Std. Pkg. Qty.	List Price
15	T-8	Med. Bipin	2.9	G15T8	24	$4.50
30	T-8	Med. Bipin	7.2	G30T8	24	6.75
8	T-5	Min. Bipin	1.5	G8T5	24	4.25



T-6½ T-10 T-8

GENERAL ELECTRIC TUBULAR LAMPS*

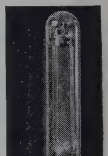
115, 120, and 125 Volts

These low-wattage tubular lamps are for showcase lighting, in shallow-depth displays, and in small trough-like reflectors. The SHOW-CASE REFLECTOR lamps have a built-in reflecting surface and a spring contact base for positioning.

Watts	Bulb	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
25	T-6½ Clear	Inter.	25T6½	60	$0.38
25	T-10 Clear	Med.	25T10	60	.27
25	T-10 I. F.	Med.	25T10/IF	60	.30
25	T-10 Refl.(Lt. I.F.)	Med.	25T10/RFL	60	.85
40	T-10 Refl.(Lt. I.F.)	Med.	40T10/RFL	60	.85
40	T-8 Clear	Med.	40T8	24	.95
40	T-10 Clear	Med.	40T10	60	.33

G-E MERCURY LAMPS*

Higher lumens per watt efficiency give mercury lamps preference over filament-type lamps for certain lighting purposes. The yellowish-green light is emitted by an electric arc formed between two electrodes enclosed in a glass bulb. They require special transformers or regulating devices for starting and operation.



A-H1

Approx. Lamp Watts	Bulb	Base	Lamp Number	Rated Average Life (Hrs.) ①	Std. Pkg. Qty.	*List Price
②400	T-16	Mog.	A-H1	4000	6	$10.50
400	T-20	Mog.	E-H1	3000	6	17.00
3000	T-9½	S.C. Term.	A-H9	5000	1	48.00

① Rated average life under specified test conditions, with 5 burning hours per start.
② Burn within 10° of vertical base up.

*** List Prices do not include Federal Excise Tax.**
† Not subject to Federal Excise Tax.

GENERAL ELECTRIC LAMPS

TRAIN AND LOCOMOTIVE

TRAINLIGHTING. To insure satisfactory lamp performance, voltage regulating devices should be adjusted to maintain rated lamp voltage at the socket. The 30- and 60-volt lamps are recommended as best adapted to average voltage conditions encountered in train-lighting service.

LOCOMOTIVE HEADLIGHT. Should be operated at rated voltage in headlight equipment protecting them from excessive vibration. The bulb must be protected from water which might strike it while hot.

The 250-watt lamp is designed for road locomotives. The 100-watt is recommended for switching locomotives.

LOCOMOTIVE CAB. This lamp designed for ruggedness rather than efficient light production. For all locomotive lighting purposes except headlighting.

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
		TRAIN—30 and 60 Volts			
15	A-17 I. F.	Med.	15A	120	$0.20
25	A-19 I. F.	Med.	25A	120	.20
50	A-21 I. F.	Med.	50A21	120	.20
*100	A-23 I. F.	Med.	100A	120	.33
		TRAIN—ROUGH SERVICE—75 Volts			
25	A-17 I. F.	Med.	25A17/RS	120	.45
50	A-19 I. F.	Med.	50A19/RS	120	.45
		TRAIN—34 Volts			
15	S-14 I.F. (Loco. Cab)	Med.	15S14/IF	120	.20
		HEADLIGHT—32 Volts			
100	A-21 Clear	Med.	100A21/3	120	1.05
*200	PAR-56 Clear	Sc. Term.	200PAR	8	3.50
250	P-25 Clear	Med.	250P25	60	1.55

* 30 volts only.

G-E STREET RAILWAY LAMPS

115, 120, and 125 Volts

HEADLIGHTING. Headlight lamps are for operation in series with four lamps of corresponding wattage and voltage used elsewhere in the car.

36①	A-19 Cl. (.342 A.)	Med.	36A/RYH	120	$0.55
94①	P-25 Cl. (.863 A.)	Med.	94P25	60	1.00

CAR LIGHTING. 5-in-series lamps operate on the trolley voltage and are used for general illumination, destination signs.

36①	A-21 I.F. (.342 A.)	Med.	36A/RY	120	$0.20
56①	A-21 I.F. (.519 A.)	Med.	56A21	120	.22
101	A-23 I.F.	Med.	101A23	120	.40
201	PS-30 Cl.	Med.	201PS30	60	.75
301	PS-35 Cl.	Mog.	301PS35	24	1.30

CUTOUT LAMPS—30 Volts

Each lamp is equipped with an automatic short-circuiting element which cuts the lamp out of the circuit and prevents arcing when the lamp burns out.

—	A-19 I.F. (1.0 A.)	Med.	1A/A19	120	$0.30
—	A-21 I.F. (1.6 A.)	Med.	1.6A/A21	120	.35

① Nominal watts. Actual watts determined by multiplying volts by the amperes (amperes being the same for all voltages).

*** List Prices do not include Federal Excise Tax.**

G-E TRAFFIC SIGNAL LAMPS

115, 120, and 125 Volts

These lamps have a short light center length, and produce enough light for a signal indication of requisite brightness. In the interest of public safety it is strongly recommended that no lamp of lower wattage be used.

Watts	Bulb and Finish	Base	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
60	A-21 Clear	Med. Screw	60A21/TS	120	$0.25
67	A-21 Clear	Med. Screw	67A21/40	120	.30

G-E STREET SERIES LAMPS

Amps.	Lumens	Approx. Initial Volts	Clear Bulb	Lamp Ordering Abbrev. ①	Std. Pkg. Qty.	*List Price
			Mogul Screw Base			
6.6	1000	9.4	PS-25	1M/66	60	$0.40
6.6	2500	21.7	PS-35	2500/66	24	.80
6.6	4000	31.9	PS-35	4M/66	24	.95
6.6	6000	46.9	PS-40	6M/66	24	1.35
15	4000	13.5	PS-35	4M/15BU	24	1.05
15	4000	13.5	PS-35	4M/15BD	24	1.05
20	6000	14.7	PS-40	6M/20BU	24	1.45
20	6000	14.7	PS-40	6M/20BD	24	1.45
20	10000	24.3	PS-40	10M/20BU	24	1.85
20	10000	24.3	PS-40	10M/20BD	24	1.85
20	15000	35.7	PS-40	15M/20BU	24	2.55
20	15000	35.7	PS-40	15M/20BD	24	2.55

① BU = Base up burning. BD = Base down burning.

GENERAL ELECTRIC AVIATION LAMPS

T-20

Effective functioning of aviation lighting equipment requires accurate positioning. Bipost and prefocus bases provide a high degree of accuracy.

Watts or Nom. Lumens	Bulb	Base	Volts or Amps.	Lamp Ordering Abbrev. (Exc. Volts)	Std. Pkg. Qty.	*List Price
			AIRCRAFT MARKER LAMPS (Clear)			
325L	A-21	Med. Pf.	6.6A	325/66/A21	120	$0.70
1020L	A-21	Med. Pf.	6.6A	1020/66/A21	120	.70
30	T-10	Med. Pf.	6.6A	6.6A/T10/1P	60	.95
200	T-14	Med. Pf.	6.6A	6.6A/T14P	24	2.70
			AIRPORT APPROACH LAMP (Lens Cover)			
250	PAR-56	Mog. End Prong	12.5	250PAR	8	2.90
			AIRWAY BEACON LAMPS (Clear)			
500	T-20	Med. Bip. ①		500T20/13	12	4.60
1000	T-20	Mog. Bip. ①		1M/T20BP	12	6.50

① Voltages: 115, 120, and 125.

GENERAL ELECTRIC LAMPS

G-E PHOTOFLASH LAMPS*

SM 5 5B 6 11 22 22B 31 50 50B

Speed Midget "SM"—For all-round near-distance pictures. Stops action on "open" flash about as effectively as a 1/200th second shutter setting. Use with special synchronizers.

Synchro-Press No. 5—A midget photoflash lamp with wide peak of illumination.

Synchro-Press No. 5B—Same as No. 5 with blue filter coating for use with daylight type color film.

Focal Plane No. 6—For use with most focal plane shutters. Uses same reflectors as the popular "Mighty Midget" No. 5.

Synchro-Press No. 11—Low-cost amateur lamp, wide peak illumination, good for open flash shots, reliable for accurate synchronizers.

Synchro-Press No. 22—For use with front-shutter cameras, the lamp provides plenty of peak light for extra coverage and high-speed shots.

Synchro-Press No. 22B—Has extra covering power for press use and between-the-lens shutter synchronizers. Has blue filter coating for correct rendition with out-door type of color films.

Focal Plane No. 31—For synchronized use with focal plane curtain shutter cameras up to and including 4 x 5 negative size. The ultra-long peak of illumination provides ample light during the full time the shutter is in operation.

Photoflash No. 50—Has widespread applications in all phases of commercial photography, particularly color work. Newspaper men will find it useful to photograph larger areas at greater distances than is possible with other photoflash lamps.

Photoflash No. 50B—Possesses great light intensity in compact bulb size — has same general characteristics as No. 50, but with a blue filter coating carefully matched to the color characteristics of daylight color emulsions. Has 30 millisecond peak, synchronizes at 1/25 second.

Lamp No.	Light Output Lumen Seconds	Bulb	Case Quantity	Carton Quantity	List Price
*PH/SM	4,700	B-11 Clear	120	8	$0.14
*PH/5	16,000	B-11 Clear	120	8	.13
*PH/5B	7,000	B-11 Blue	120	8	.17
*PH/6	15,500	B-11 Clear	120	8	.15
*PH/11	29,000	A-15 Clear	120	8	.15
†PH/22	63,000	A-19 Clear	120	6	.17
†PH/22B	27,000	A-19 Blue	120	6	.23
*PH/31	77,000	A-21 Clear	60	6	.24
†PH/50	95,000	A-21 Clear	60	6	.22
†PH/50B	43,000	A-21 Blue	60	6	.28

* Battery operation only. † Voltage operation 3–125 volts.

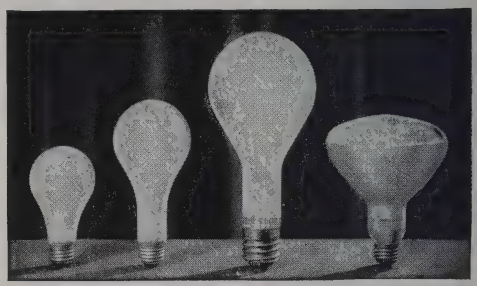
G-E PHOTOGRAPHIC ENLARGER LAMPS*

Lamp No.	Watts	Bulb and Finish	Life (Hrs.)	Case Qty.	Carton Qty.	List Price
Medium Base—115-125 Volts						
② PH/111	75	S-11 White	25	120	6	$0.55
PH/211	75	A-21 White	100	60	6	.40
PH/212	150	A-21 White	100	60	6	.41
PH/213	250	A-21 White	3	60	6	.42
PH/302	500	PS-30 White	100	60	1	1.30

① All photoflood lamps operate on 105 to 120 volts, alternating or direct current.

② Single contact bayonet base.

G-E PHOTOFLOOD LAMPS ①*



1 2 4 RFL2

Reflector No. RFL2—Specially shaped bulb, with inside coating of mirror aluminum redirects the light so that most effective illumination is obtained within a 60-degree zone. 5 inches in diameter, 6½ inches over-all.

Reflector Photospot No. RSP2—Is ideal for highlighting, backlighting and edgelighting. Its light has been squeezed into a beam of approximately 20°— resulting in a punch of light more than seven times more powerful than that of the RFL2.

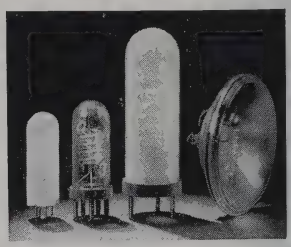
Lamp No.	Watts	Bulb	Volts	Rated Life	Case Qty.	Carton Qty.	List Price
PH/1	250	A-21 I.F.	115	3	60	6	$0.18
PH/2	500	PS-25 I.F.	115	6	60	6	.33
PH/4	1000	PS-35 I.F.	115	10	24	1	1.20
PH/RFL2	500	R-40 I.F.	115	6	24	1	1.15
PH/RSP2	500	R-40 I.F.	115	6	24	1	1.30
PH375/34R4	375	R-40 I.F.	115	4	24	1	1.25

G-E FLASHTUBE MODELING*

For use with G-E Flashtube No. FT-403.

60T6½/1	60	T-6½Cl.	115 120 125	100	24	1	1.85

G-E FLASHTUBES *T



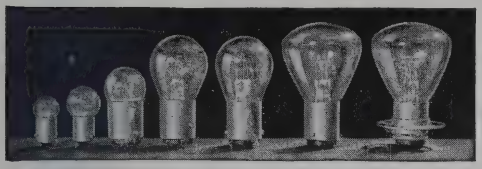
FT-210 FT-214 FT-403 FT-220

For use only with auxiliary equipment specially designed to produce proper electrical values. Design volts 2000.

Flashtube Number	Outer Bulb	Base	Max. Over-all Length Inches	Max. Watt-Seconds	Case Quantity	List Price
FT-210	T-10 I.F.	Octal 3-pin	3⅝	200	12	$17.50T
FT-214	T-12½	Giant 3-pin	3⅞	200	12	18.50
FT-220	PAR-46	3-screw Term.	3½	200	12	21.50
FT-403	T-18 I.F.	Large 3-pin	6¾	480	12	23.00

*** Federal Excise Tax (13.1%) (T, 10.5%) of list price not included in photo lamp list prices shown. Discounts on G-E Photo Lamps obtainable upon request.**

GENERAL ELECTRIC LAMPS



G-3½ G-4½ G-6 S-8 D. C. Index S-8 D. C. Bay. RP-11 Bayonet RP-11 Prefocus

G-E Lamp Number	List Price	C. P.	Bulb	Base
6-8 VOLT—AUTOMOTIVE SERVICE †				
51	$0.09	1	G-3½	Min. Bay.
55	.09	2	G-4½	Min. Bay.
63	.10	3	G-6	S. C. Bay.
64	.12	3	G-6	D. C. Bay.
81	.12	6	G-6	S. C. Bay.
82	.14	6	G-6	D. C. Bay.
87	.23	15	S-8	S. C. Bay.
88	.25	15	S-8	D. C. Bay.
1007	.42	32	RP-11	S. C. Pref.
1129	.25	21	S-8	S. C. Bay.
1130	.27	21	S-8	D. C. Bay.
1133	.27	32	RP-11	S. C. Bay.
1000	.32	32–32	RP-11	D. C. Bay.
1154	.32	21–3	S-8	D. C. Index
1158	.32	21–3	S-8	D. C. Bay.
1323	.42	32	RP-11	S. C. Pref.
2330	.43	32–32	RP-11	D. C. Pref.
2331	.47	32–32	RP-11	D. C. Pref.
12-16 VOLT—MOTOR TRUCK AND COACH †				
57	.15	1½ (nom.)	G-4½	Min. Bay.
67	.13	3	G-6	S. C. Bay.
68	.15	3	G-6	D. C. Bay.
89	.14	6	G-6	S. C. Bay.
93	.27	15	S-8	S. C. Bay.
94	.29	15	S-8	D. C. Bay.
1016	.53	21–6	S-8	D. C. Index
1124	.50	32–32	RP-11	D. C. Bay.
1141	.29	21	S-8	S. C. Bay.
1142	.31	21	S-8	D. C. Bay.
1143	.37	32	RP-11	S. C. Bay.
1144	.39	32	RP-11	D. C. Bay.
1176	.52	21–6	S-8	D. C. Bay.
1327	.62	32	RP-11	S. C. Pref.
2336	.63	32–32	RP-11	D. C. Pref.

† Federal Excise Tax (1.6%) not included in list prices shown.

RADIO PANEL, INDICATORS, MISCELLANEOUS ★

G-E Lp. Number	List Price	Bulb	Rated Volts	Amps.	Bead Color	Base
41	$0.11	T-3¼	2.5	0.50	White	Min. Screw
40	.11	T-3¼	6–8	0.15	Brown	Min. Screw
46	.11	T-3¼	6–8	0.25	Blue	Min. Screw
50	.11	G-3½	6–8	0.22	White	Min. Screw
1490	.11	T-3¼	3.2	0.16	White	Min. Bay.
47	.11	T-3¼	6–8	0.15	Brown	Min. Bay.
44	.11	T-3¼	6–8	0.25	Blue	Min. Bay.
1458	.15	G-5	20	0.25	White	Min. Bay.
TOY TRAIN ★						
428	.12	G-4½	12.5	0.25	.....	Min. Screw
1446	.15	G-3½	12	0.20	.....	Min. Screw
1449	.15	G-3½	14	0.20	.....	Min. Screw
1447	.23	G-3½	18	0.15	.....	Min. Screw
432	.13	G-4½	18	0.25	.....	Min. Screw

★ Federal Excise Tax (6.3%) not included in list prices shown.

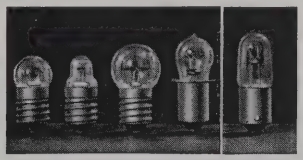
General Electric sealed beam headlamps are of rugged, all-glass construction — they do not grow dim! Same construction used in General Electric fog lamps.

G-E "L" LAMPS (Sealed Beam Types) †

G-E Lp. Number	List Price	Watts	Volts	Bulb	Base	Service
4030	$1.40	45–35	6–8	PAR-56	3 Cont. Lugs	Sealed Beam
4430	1.80	45–35	12–16	PAR-56	3 Cont. Lugs	Sealed Beam
4012	1.50	35	6–8	PAR-46	Screw Term.	Clear Fog
4012A	1.70	35	6–8	PAR-46	Screw Term.	Amber Fog
4013	¶1.45	25	6–8	PAR-46	Screw Term.	Tractor
4015	1.45	35	6–8	PAR-36	Screw Term.	Clear Fog
4015A	1.65	35	6–8	PAR-36	Screw Term.	Amber Fog
4412	2.00	35	12–16	PAR-46	Screw Term.	Clear Fog
4412A	2.20	35	12–16	PAR-46	Screw Term.	Amber Fog
4435	2.35	30	12–16	PAR-46	Screw Term.	Clear Spot
4510	1.70	25	6–8	PAR-36	Screw Term.	Clear Utility
4515	1.80	30	6–8	PAR-36	Screw Term.	Clear Spot
4516	1.70	30	6–8	PAR-36	Screw Term.	Clear Hand Spot
4535	1.85	30	6–8	PAR-46	Screw Term.	Clear Spot

A unit package of above types consists of 8 lamps.

† Federal Excise Tax (1.6%) not included in list prices shown.
¶ Federal Excise Tax (6.3%) not included in list prices shown.



G-3½ TL-3 G-4½ B-3½ T-3¼

FLASHLIGHTS, HAND-LANTERNS, BICYCLES AND MIS-CELLANEOUS ★

Miniature Screw Base

G-E Lp. Number	List Price	Bulb	Rated Volts	Design Amps.	Bead Color	Service Used with
112	$0.11	TL-3	1.10	0.22	Pink	1—AA cell
131	.11	G-3½	1.30	0.10	White	1—D
222	.11	TL-3	2.25	0.25	White	2—AA
223	.11	FE-3¾	2.25	0.25	White	2—AA
233	.11	G-3½	2.33	0.27	Purple	2—C
14	.11	G-3½	2.47	0.30	Blue	2—D
13	.11	G-3½	3.70	0.30	Green	3—D
502	.12	G-4½	5.10	0.15	Blue	4—F
605	.13	G-4½	6.15	0.50	Brown	5—D

Single Contact Miniature Flange Base

PR4	.15	B-3½	2.33	0.27	Lt. Green	2—C
PR2	.15	B-3½	2.38	0.50	Blue	2—D
PR6	.15	B-3½	2.47	0.30	Brown	2—D
PR3	.15	B-3½	3.57	0.50	Green	3—D
PR7	.15	B-3½	3.70	0.30	Pink	3—D

AA-cells....½" dia., 1⅞" high
C-cell.....⅝" dia., 1⅜" high
D-cell.....1¼" dia., 2¼" high
F-cell.....1¼" dia., 3 1/16" high
No. 6 cell..2½" dia., 6" high

A unit package of lamps listed on this page shall consist of 10 lamps, except where otherwise specified, of the same G-E Lamp Number.

GENERAL ELECTRIC MINE LAMPS

MINE LAMPS

Watts	Bulb & Finish	Base	Volts	Lamp Ordering Abbreviation	Std. Pkg.	*List Price
50	A-19 Clear	Med.	275	50A19/35	120	**$0.32**
50	A-19 Clear	Med.	300	50A19/36	120	**.32**
50	A-19 IF	Med.	300	50A19	120	**.27**
100	A-23 Clear	Med.	300		120	**.50**
100	A-23 IF	Med.	300	100A	120	**.45**
200	PS-30 Cl.	Med.	250	200	60	**.50**
200	PS-30 IF	Med.	250	200/IF	60	**.55**

MINE LOCOMOTIVE HEADLIGHT LAMPS

94	P-25 Clear	Med.	60	94P25	60	**1.35**
94	P-25 Clear	Med.	125	94P25	60	**1.00**
150	P-25 Clear	Med.	125	150P25/15	60	**1.60**
150	Par 38	Md. Skt.	125	150Par/Sp	12	**1.55**
150	Par 38	Md. Skt.	125	150Par/Fl	12	**1.55**
150	Par 46	Screw Term.	115	150Par 46	8	**3.60**
	Par-56	3-Cont. Lugs	6–8	4030	8	**1.40**
	Par-56	3-Cont. Lugs	12–16	4430	8	**1.80**
	Par 46	Screw Term.	6	4524	8	**1.70**
	Par 46	Screw Term.	6–8	4010	8	**1.65**

*Federal Excise Tax not included in list prices shown.

COMPCO LAMP TESTING EQUIPMENT

No. 172 FLUORESCENT LAMP AND STARTER TESTER

Tests all standard fluorescent lamps; 14 watt — 15-inch length; 15 watt — 18-inch length; 20 watt — 24-inch length; 25 watt — 33-inch length; 30 watt — 36-inch length; 40-watt — 48-inch length.

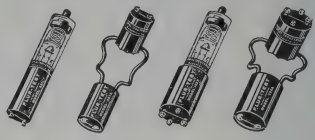
Tests starters — Starter Socket on same instrument board tests FS-2 for 14, 15, 20 watt lamps; FS-12 for 32 watt Circline Lamps; FS-25 for 25 watt lamps; FS-4 for 30 and 40 watt lamps; also "No-Blink" Starters.

Size 5½ inches wide x 11½ inches long. For 110-125 volts, 60 cycle A.C. Complete with cord and plug.

List Price, No. **172** Fluorescent Lamp and Starter Tester .....each **$18.85**

List Price, No. **174** Circline Lamp Adaptor for use with No. 172 Tester.....each **$2.63**

FLUR-TEST FLUORESCENT FIXTURE TESTER



This new pocket-size tester quickly locates the trouble and indicates whether it is in the circuit, starter or the tube. It saves time of trial-and-error methods of replacing starters and tubes. If the fixture circuit is dead, you will know it immediately.

When you test with Flur-Test, you know definitely that a discarded tube or starter you throw away is bad. Bench testing of tubes and starters after a round of fixture maintenance is entirely eliminated. It is a light saver that pays for itself a dozen times over. The Ideal Flur-Test simply plugs into starter socket to make all three tests. Two models are available — one for fixtures with 15 to 40 watt tubes and one for fixtures with 85 to 100 watt tubes.

To test fixtures having starters behind tube, Flur-Test adapters are available.

Cat. No.	Description	Price Each
61-011	Flur-Test (15-40 watt)	**$10.90**
61-012	Flur-Test Adapter for above	**4.30**
61-013	Flur-Test (85-100 watt)	**13.10**
61-014	Flur-Test Adapter for above	**6.50**

GENERAL ELECTRIC LIGHT METER

The new General Electric Light Meter is an instrument which measures light as easily as a thermometer measures temperature. The actual amount of light, together with the necessary amount for all types of seeing-tasks, may be measured.

In appearance the Light Meter resembles a thin, compact desk clock. It measures 2¼ inches square and 1⅛ inches thick and is made of Textolite with a mahogany finish.

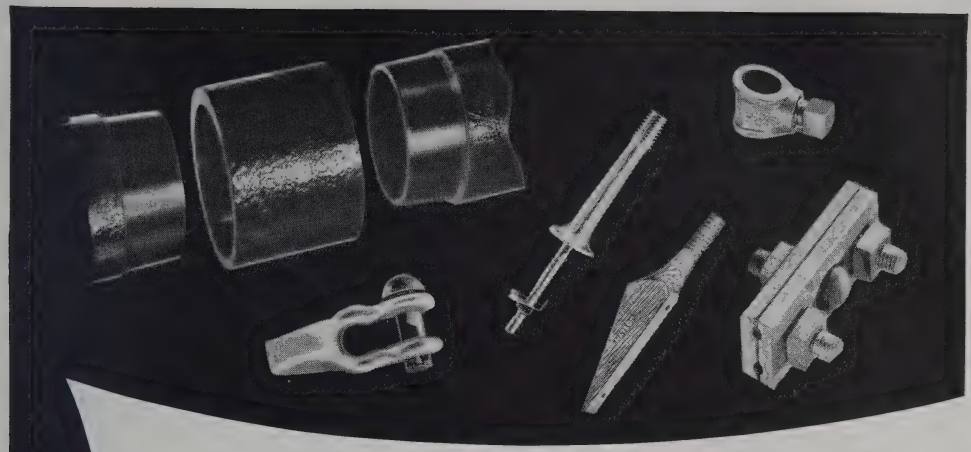
Light Meters are equipped with a metal multiplying plate so that illumination values up to 1000 footcandles may be read.

Price, G-E Light Meter.....each **$11.50**

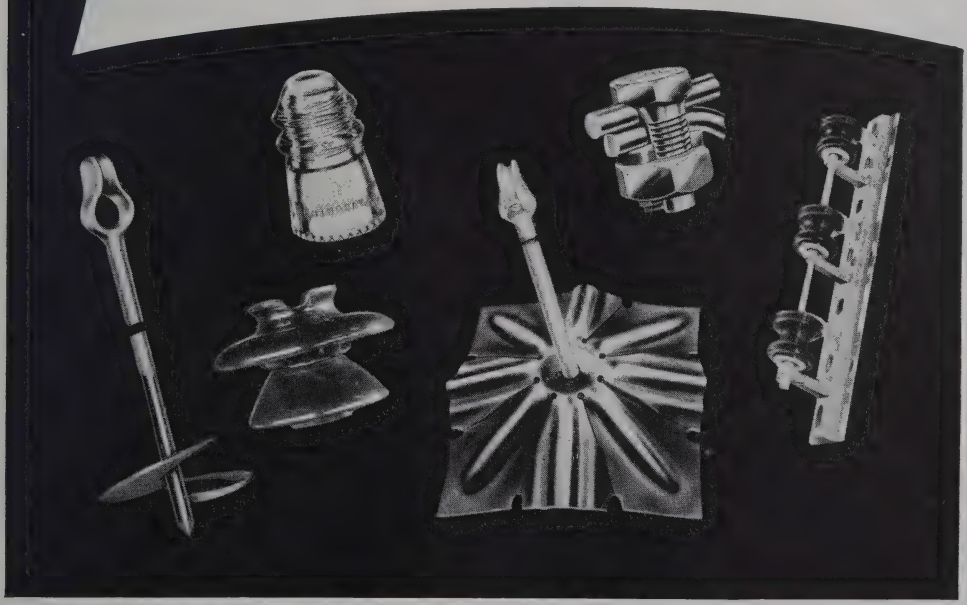
McGILL COLORING FLUID AND FROSTING

Eight colors and frosting, for coloring and frosting lamps by dipping. Not weatherproof. Recommended for lamps up to 60 watts. Apply all tints and shades to lighted lamps—frosted to unlighted lamps, then light and let dry. Amber, red, blue, pink, ruby. green, canary, purple, and frosting and thinner. Specify colors.

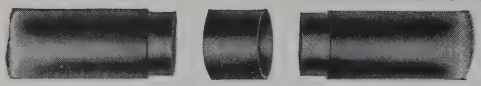
Cat. No.	Description	Wt. Lbs. Each	Price Each
2762	Galion Bottle	11	**$16.50**
2764	Quart Bottle	3½	**5.40**
2765	Pint Bottle	2½	**2.90**



outdoor construction material



ORANGEBURG FIBRE CONDUIT



Orangeburg Conduit has been used as a raceway for underground communications and power circuits since 1893.

Manufactured by the Orangeburg Manufacturing Co., Inc., Orangeburg, N. Y., where continuing research and development insures a high standard of both workmanship and product improvement.

Permanence and Low Cost

Orangeburg Conduit has proven its ability to give maximum, permanent, low maintenance service under conditions that expose ducts to attack from ground waters and chemical wastes — both acid and alkaline.

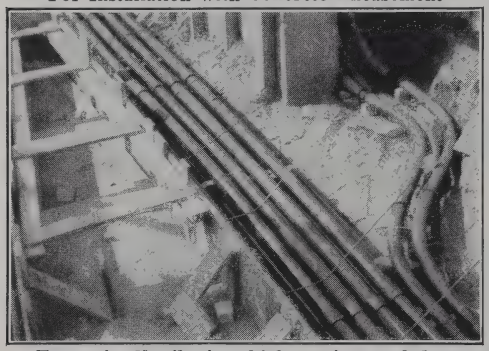
Installations running back over fifty years are still providing clear, usable raceways.

Low in first cost, light in weight yet amply strong to resist breakage, it can be transported to the job in large truckloads.

The material is easy to cut or work. Angle couplings, bends, and other fittings make installation simple and economical. Long lengths and readily assembled Taper Sleeve Joints make for labor saving and low installed cost.

ORANGEBURG STANDARD CONDUIT (TYPE I)

For Installation with Concrete Encasement



For main distribution, high tension, and downtown locations.

Orangeburg Standard (Encased in Concrete), is the most economical where duct banks of two or more ducts are involved.

Interchangeable taperjoint couplings are furnished with each length of conduit without extra charge.

A mating 2-degree factory machined taper is provided on each length of conduit and assures a watertight joint.

Protection From Cable Sheath Abrasion

Scoring or abrasion of the cable sheath weakens its resistance to corrosive elements and shortens its life. Because of the smooth bore of their materials, Orangeburg ducts do not score or abrade the leadsheath cable.

Protection From Pulling Tension

Pulling tension on cable tends to set up strains in the sheath. The coefficient of friction in Orangeburg Conduit is lower than in other types of duct material. Published data by one large utility reveal the following coefficient of friction for a large actual installation recently made in which oil-filled cable was used:

Size of Cable		Size of Duct	Coefficient
300,000 C.M.	2¼-In. O.D.	3 Inches	.25-.30
650,000 C.M.	2½-In. O.D.	4 Inches	.25-.30

General Properties

Composed of 75 per cent hard coal tar pitch with wall sections homogeneous and impregnation uniform throughout.

Specifications

Federal Specification: WC-581,
A.T. & T. (Bell Laboratories): AT-7047,
U.S. Navy: 9YE,
I.M.S.A.: 104-1942,
Civil Aeronautics Authority: CAA-606,
Association of American Railroads: XVIII-A21 1929,
And many Public Utilities specifications.

ORANGEBURG NOCRETE CONDUIT (TYPE II)

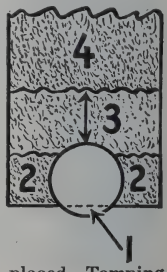
For Installation Without Concrete Encasement

Conduit for underground without concrete encasement must have three prime characteristics: (1) mechanical strength; (2) ability to endure permanently; (3) offer lasting cable protection.

For house connections, laterals and extensions; airport, street and parkway lighting, fire alarm and signal systems; industrial and institutional grounds.

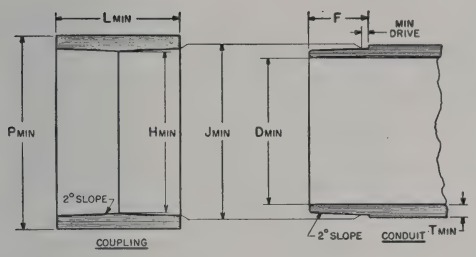
How to Lay Orangeburg NOCRETE Conduit

Trench and backfill. The trench bottom should be graded true and free from stones or soft spots. Backfill should be free of stones, and should be firmly tamped around the side of the conduit to develop maximum supporting strength. Tamping on top of the conduit is not recommended.



1. Best results are obtained if a cradle is made for the conduit in the undisturbed subgrade. In rocky soil, where this is not possible, a bedding of selected backfill should be put down and tamped before laying conduit.
2. Sidefill up to near the top of the conduit should be firmly tamped.
3. Selected backfill (not tamped) at least 6 inches over the top of the conduit is recommended.
4. Final backfill may now be placed. Tamping may now be employed to finish grade.

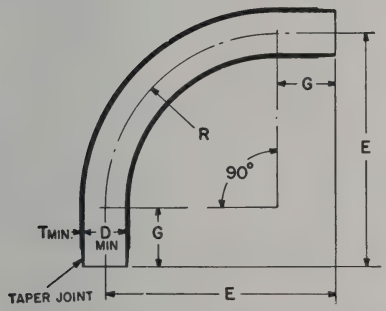
FITTINGS FOR STANDARD AND NOCRETE CONDUIT

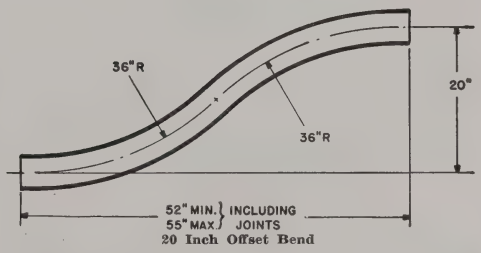


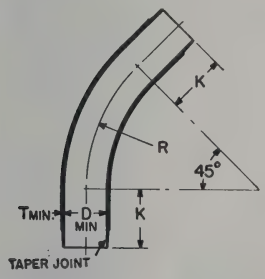
Taper Joint Dimensions—Conduit and Coupling

Size	1"	2"	3"	4"	4.5"	5"	6"
STANDARD CONDUIT (Type I)—Dimens. in Inches							
P Min.	1.75	2.97	3.99	5.12	5.73	6.66	7.72
L Min.	1.30	2.10	2.50	3.30	3.70	4.00	4.00
H Min.	1.272	2.365	3.326	4.353	4.932	5.528	6.562
J Min.	1.317	2.438	3.413	4.468	5.061	5.668	6.702
D Min.	.95	2.00	3.00	4.00	4.50	5.00	6.00
F	.60	1.00	1.20	1.60	1.80	1.95	1.95
T Min.	.20	.20	.20	.20	.20	.25	.25
Min. Drive	.10	.10	.10	.10	.15	.20	.20
NOCRETE CONDUIT (Type II)—Dimensions in Inches							
D Min.	.....	2.00	3.00	4.00	.....	.....	.....
F	.....	1.20	1.45	1.85	.....	.....	.....
H	.....	2.580	3.670	4.720	.....	.....	.....
J	.....	2.667	3.775	4.853	.....	.....	.....
L Min.	.....	2.50	3.00	3.80	.....	.....	.....
P Min.	.....	3.42	4.49	5.60	.....	.....	.....
T Min.	.....	.34	.39	.43	.....	.....	.....
Drive	.....	.10	.10	.10	.....	.....	.....

BENDS AND ELBOWS







Orangeburg Fibre Conduit bends and elbows are made to the required radius and degree. Furnished with standard interchangeable Taper Sleeve Joint (coupling included).

Standard bends and elbows are listed with dimensions. For split bends and bends of special radius and degree, inquire regarding availability.

Standard Conduit (Type I) or Nocrete Conduit (Type II)

Nominal Inside Diameter in Inches	1.0"	2.0"	3.0"	4.0"	4.5"	5.0"	6.0"
(Type I) Bend Sizes		2.0"	3.0"	4.0"			
(Type II) Bend Sizes	.....	2.0"	3.0"	4.0"	.....	.....	.....

Standard Conduit (Type I)—Dimensions in Inches

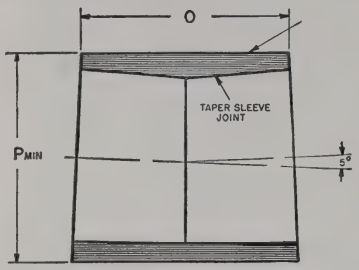
Size (D Min.) / T Mim.	1.0" .20"				2.0" .23"				3.0" .28"			4.0" .32"		4.5" .32"		5.0" .41"		6.0" .46"
R	5.75	18	24	36	9.5	18	24	36	13	24	36	16	36	18	36	24	36	36
E	13.75	26	32	38	17.5	26	32	38	21	32	38	24	38	26	36	32	36	36
G	8	8	8	2	8	8	8	2	8	8	2	8	2	8	0	8	0	0
K	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

Nocrete Conduit (Type II)—Dimensions in Inches

Size D Min. / T Min.	2.0" .38"				3.0" .43"			4.0" .48"	
R	9.5	18	24	36	13	24	36	16	36
E	17.5	26	32	38	21	32	38	24	38
G	8	8	8	2	8	8	2	8	2
K	8	8	8	8	8	8	8	8	8

FITTINGS FOR ORANGEBURG STANDARD AND NOCRETE CONDUIT

5 DEGREE ANGLE COUPLING



Available to permit the laying of offsets, long radius bends, etc., to get around obstructions and other services which may be encountered.

The Taper Joint is provided, and a mark on the coupling shows the direction in which the angle will point.

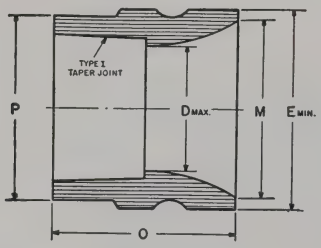
5° ANGLE COUPLINGS FOR STANDARD CONDUIT (Type I)
Dimensions, Inches

Size	1	2	3	4	4.5	5	6
P Min.	1.75	2.97	3.99	5.12	5.73	6.66	7.72
O	1.30	2.10	2.50	3.30	3.70	4.00	4.00

5° ANGLE COUPLING NOCRETE (Type II)
Dimensions, Inches

Size		2	3	4			
P Min.	.....	3.42	4.49	5.60	.....	.....	.....
O	.....	2.50	3.00	3.80	.....	.....	.....

BELL ENDS



For use at conduit terminals in manholes at sub stations, etc.

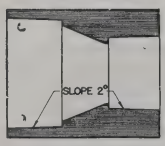
Bell End—Standard Conduit (Type I)

Size	1"	2"	3"	4"	4.5"	5"	6"
P min.	2.30	3.42	4.49	5.73	6.66	6.83	8.10
D max.	1.06	2.15	3.15	4.15	4.65	5.15	6.20
M	1.90	3.10	4.15	5.40	6.30	6.50	7.75
O	1.65	2.55	3.00	3.65	4.50	4.50	4.50

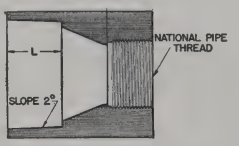
Nocrete Conduit (Type H)

P min.	.....	3.42	4.49	5.60	.....	.....	.....
D max.	.....	2.15	3.15	4.15	.....	.....	.....
M	.....	3.00	4.12	5.20	.....	.....	.....
O	.....	3.00	3.50	4.25	.....	.....	.....

REDUCERS



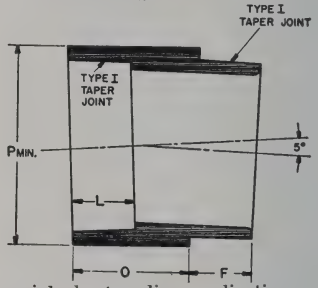
ADAPTERS



Adapters from metal pipe to fibre conduit and reducers from one size fibre conduit to another are available in all combinations from 1 to 6 inches inclusive.

The standard adapter is Taper Sleeve Joint at the fibre end threaded for metal pipe size specified, at the other end. Can be supplied straight bore for threadless metal pipe. Sizes and types of connections desired must be specified.

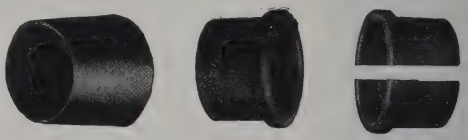
5°—36" RADIUS BEND SECTIONS



For special short radius application — cross-unders, transformations, obstructions. Offset male and female tapered joints tooled at an angle of 2½° resulting in a Bend Section of 5°. Various degrees and length bends, offsets and spirals can be assembled in the field. For Orangeburg Standard Conduit only.

Size	2"	3"	4"	4½"	5"
P Min.	2.97	3.80	5.12	5.60	6.40
O	3.00	2.97	2.94	2.90	2.85
L	1.05	1.25	1.65	1.85	2.00
F	1.00	1.20	1.60	1.80	1.95

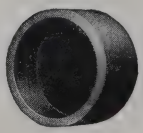
FIBRE PLUGS AND FIBRE BUSHINGS



Fibre Plugs—For temporarily closing ends of ducts during concreting, etc. Available for 2 to 6-inch size conduits inclusive.

Fibre Bushings—Available for all conduit sizes 2 to 5 inches inclusive.

FIBRE CAPS

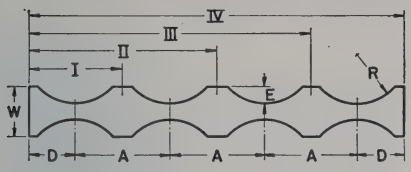


For sealing spare ducts or exposed conduit ends, etc. Taper Sleeve Joint is standard; socket joint or sleeve fit if specified.

Made for conduit sizes 1 to 6 inches inclusive.

ORANGEBURG FIBRE CONDUIT ACCESSORIES

CONCRETE SPACERS (Bridges or Separators)—For Standard Conduit (Type I Only)



For built-up fibre conduit installations, grooved concrete spacers are available for one, two, three or four conduit wide assemblies. These spacers are cast for conduit sizes from 2 to 5 inches inclusive.

As the general practice is to allow a separation of 1 inch between conduit, this is the standard separation provided. However, for special applications, spacers can be supplied for 1½, 2 or 3-in. separation between ducts.

Orangeburg Conduit Spacers are handled as a service item. Although built for minimum weight with adequate strength, transportation cost may make it more economical for the large user at distant points to make his own spacers.

Complete information as to mix employed will be furnished upon request.

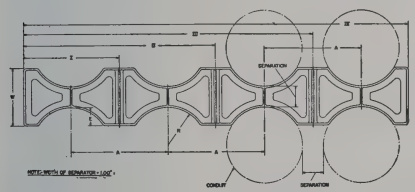
Dimensions of Conduit Spacers

Size	R	E	1" Separation A	1" Separation D	1" Separation W	1½" Separation A	1½" Separation D	1½" Separation W	2" Separation A	2" Separation D	2" Separation W	3" Separation A	3" Separation D	3" Separation W
2"	1.31	.63	3.63	1.75	2.25	4.13	2.00	2.75	4.63	2.25	3.25	5.63	2.75	4.25
3"	1.81	.88	4.63	2.25	2.75	5.13	2.50	3.25	5.63	2.75	3.75	6.63	3.25	4.75
4"	2.38	1.13	5.75	2.81	3.25	6.25	3.06	3.75	6.75	3.31	4.25	7.75	3.81	5.25
4.5"	2.69	1.25	6.38	3.13	3.50	6.88	3.38	4.00	7.38	3.63	4.50	8.38	4.13	5.50
5"	3.06	1.38	7.13	3.50	3.75	7.63	3.75	4.25	8.13	4.00	4.75	9.13	4.50	5.75

Overall Length

Size	1" Separation I	1" Separation II	1" Separation III	1" Separation IV	1½" Separation I	1½" Separation II	1½" Separation III	1½" Separation IV	2" Separation I	2" Separation II	2" Separation III	2" Separation IV	3" Separation I	3" Separation II	3" Separation III	3" Separation IV
2"	3.50	7.13	10.75	14.38	4.00	8.13	12.25	16.38	4.50	9.13	13.75	18.38	5.50	11.13	16.75	22.38
3"	4.50	9.13	13.75	18.38	5.00	10.13	15.25	20.38	5.50	11.13	16.75	22.38	6.50	13.13	19.75	26.38
4"	5.63	11.38	17.13	22.88	6.13	12.38	18.63	24.88	6.63	13.38	20.13	26.88	7.63	15.38	23.13	30.38
4½"	6.25	12.63	19.00	25.38	6.75	13.63	20.50	27.38	7.25	14.63	22.00	29.38	8.25	16.63	25.00	33.38
5"	7.00	14.13	21.25	28.38	7.50	15.13	22.75	30.38	8.00	16.13	24.25	32.38	9.00	18.13	27.25	36.38

All dimensions subject to manufacturers tolerances.



PLASTIC SPACERS

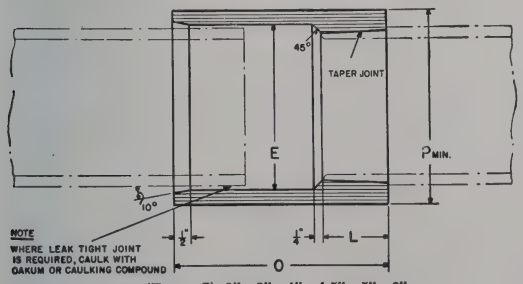
Orangeburg Plastic Spacers are available for 3-inch and 4-inch Conduit. May be supplied with 1-inch, 1½-inch, and 2-inch separation between ducts. Multiple units can be cut to desired width or may be ordered to specification. One-half to one-fifth the weight of pre-cast or other type spacers.

Size	R	E	1" Separation A	1" Separation W	1" Separation I	1" Separation II	1" Separation III	1" Separation IV	1.5" Separation A	1.5" Separation W	1.5" Separation I	1.5" Separation II	1.5" Separation III	1.5" Separation IV	2" Separation A	2" Separation W	2" Separation I	2" Separation II	2" Separation III	2" Separation IV
3"	1.83	.88	4.63	2.75	4.50	9.13	13.75	18.38	5.13	3.25	5.00	10.13	15.25	20.38	5.63	3.75	5.50	11.13	16.75	22.38
4"	2.40	1.13	5.75	3.25	5.63	11.38	17.13	22.88	6.25	3.75	6.13	12.38	18.63	24.88	6.75	4.25	6.63	13.38	20.13	26.88

EXPANSION JOINTS AND DUPLEX COUPLINGS

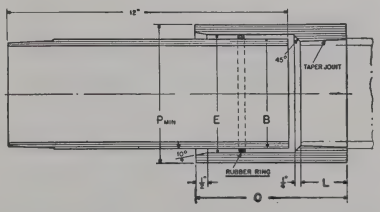
Fittings, Drwgs. 0504 and 0506, may be used as Duplex Couplings with untooled fibre and other types of electrical conduit. When used as Expansion Joints with fibre conduit, Drwgs. 0505 and 0507, they are furnished with rubber rings and short piece of machined conduit.

STANDARD CONDUIT (Type I) Drwg. 0504 **NOCRETE CONDUIT (Type II)** Drwg. 0506



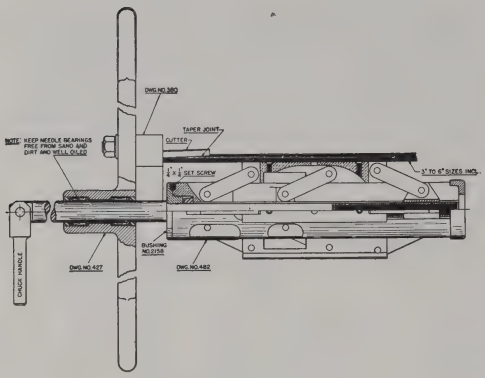
Furnished in Sizes (Type I) 2"—3"—4"—4.5"—5"—6"
(Type II) 2"—3"—4"

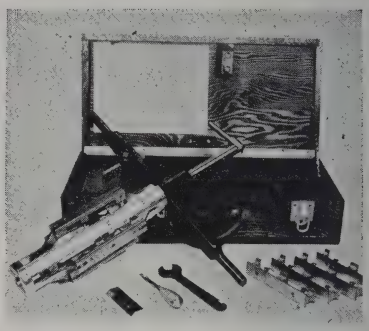
STANDARD CONDUIT (Type I) Drwg. 0505
NOCRETE CONDUIT (Type II) Drwg. 0507



ORANGEBURG FIELD TOOLING LATHE

For 1 to 6-Inch STANDARD and NOCRETE Conduit





Orangeburg field tooling lathes are made of hardened steel alloy with needle bearings in the cutting handle.

With reasonable care, they maintain accuracy for many years.

No. 0902 is designed for 1-inch conduit only.

No. 0904 is designed for 2-inch conduit only.

No. 0905 is adjustable for 3 to 6 - inch conduit only.

Parts List

Cat. No.	Description	Qty.
09–107	Cutter Holder, taper joint	1
2820–2	Cutter Blade for 3-in. Standard	1
2820–3	Cutter Blade for 4- and 4½-in. Standard and 4-in. Nocrete	1
2820–4	Cutter Blade for 5-in. and 6-in. Standard	1
2820–6	Cutter Blade for 3-in. Nocrete	1
495	Combination Wrench	1
427	Cutting Handle	1
482	Chuck Assembly	1
2270–0905	Carrying Case	1

Shipping Weights and Data

Economical Transportation. Orangeburg Conduit is transported by rail or truck most economically because it combines light weight with ample strength to resist breakage. The largest truck bodies can be loaded to maximum cubic carrying capacity, reducing trips and hourly costs to an almost negligible cost per foot.

Orangeburg price schedules are based on total weight of material involved, including all bends, elbows and items classified as fittings STANDARD and NOCRETE; excluding items classified as accessories (spacers, etc.).

Shorts. The right is reserved to include 15 per cent of lengths shorter than standard. All shorts included are packed separately in any shipment to facilitate identification and easy count. Shorts are cut to even lengths in multiples of 6 inches.

Class A Orders: 30,000 pounds (minimum car) or over.
Class B Orders: 10,000 to 29,999 pounds.
Class C Orders: 9,999 pounds or less.

Packaging. There is an extra charge for packaging Class A and B orders, if packaging is desired and specified. Class C orders are usually packaged for less than carload handling.

Weights and bends and other fiber items are included in figuring minimum weights; consequently such items on an order will decrease footage in the conduit weight tables.

The weights listed below are used for pricing computations only (approximate shipping weights).

Orangeburg Standard Conduit

Conduit Size ..... inches	1	2	3	4	4½	5	6
Weight per 100 feet ..... pounds	50	115	140	200	240	300	425
Min. No. of Feet to Make 30,000 Lb. ..... ft.	60,000	26,100	21,430	15,000	12,500	10,000	7,059
Min. No. of Feet to Make 10,000 Lb. ..... ft.	20,000	8,700	7,144	5,000	4,167	3,334	2,353

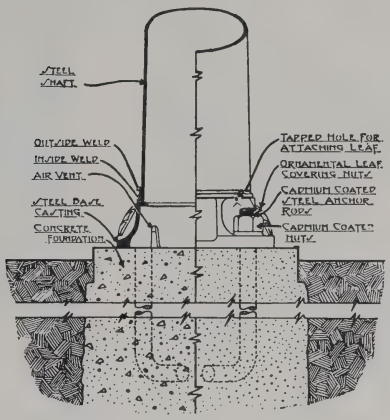
Orangeburg Nocrete Conduit

Conduit Size ..... inches	2	3	4
Weight per 100 feet ..... pounds	180	270	360
Minimum Number of Feet to Make 30,000 Lb. ..... ft.	16,668	11,112	8,333
Minimum Number of Feet to Make 10,000 Lb. ..... ft.	5,556	3,704	2,778

UNION METAL MONOTUBE POLES

"The pole that works with the load"

Union Metal Tapered Monotube Pole with Anchor Base Construction



Sectional View of Monotube Pole showing Method of "Anchor Rod Construction"

Union Metal **tapered** Monotube poles were developed after years of research. They combine structural and economical advantages with pleasing appearance . . . a combination not found in other poles. They can be furnished either fluted or plain round and with anchor rod base or for embedment.

Applications — Designed to be used for the same purposes as wood, structural steel, or sectional tubular steel poles, Monotubes are noted for their strength, beauty and flexibility.

A few of the more popular applications are as follows:

(1) Electric Railway and Trolley Coach Overhead Lines.
(2) Combination Street Lighting and Trolley Coach Overhead.
(3) Light and Power Transmission and Distribution Lines.
(4) Telephone and Telegraph Lines.
(5) Floodlighting and Sign Standards.
(6) Antenna Supports for High Frequency on F.M. Antennae.

Description — The Monotube tapered pole is made from highest grade, hot rolled, open hearth steel. It is formed into a tube and electrically welded with one continuous longitudinal seam. The tube is then placed over a mandrel having the proper taper and desired shape, and cold rolled longitudinally under tremendous hydraulic pressure until it has the desired physical characteristics and is straight, smooth and true.

This longitudinal cold-rolling process, whereby the grain structure of the metal is changed, increases the yield strength by more than 50% of its original value. The Monotube pole thus achieves maximum ability to withstand shock and impact.

Gauge—Union Metal Monotube Poles are made up in four standard gauges, namely:

11 Gauge (⅛-inch approx.)
3 Gauge (¼-inch approx.)
7 Gauge ($\frac{5}{16}$-inch approx.)
0 Gauge ($\frac{3}{16}$-inch approx.)

Where heavier poles are required, poles of two or more plies can be furnished.

Length—Monotube poles can be furnished up to 40 feet in length in one section. Longer poles are furnished in two sections for field assembly.

Taper — The standard taper on all Monotube strain poles is fourteen hundredths (.14) of an inch per linear foot, measured as change in diameter. Poles of other tapers have and can be made for special requirements within limitations.

Anchorage—Use of anchor base construction is recommended over the embedded type as it removes the hazard of ground line corrosion. This construction has the additional advantages of better appearance, quick and economical replacement and high salvage value when poles must be moved from one location to another.

Finish — All Union Metal Monotube poles are thoroughly cleaned and painted inside and out before shipment.

Western Red Cedar Poles
by
Page & Hill, Inc.

SUGGESTIONS FOR ORDERING P&H POLES

Poles produced and shipped under A.S.A. Specifications carry numbered classes from 1 to 7 as is shown in the table below. Simply specify the class number and length of the poles which best suit your purposes. Under A.S.A. Specifications the groundline measurement determines the strength of the pole.

We recommend the framing of all poles to your specifications at the P&H Pole Yard and Treating Plant.

All "LIFE-SPAN" Poles should be framed before treatment. Framing instructions should include type and angle of roof—type and width of gains—and diameter of through bolt holes, together with measurements from peak of roof to center of first gain and distance between gains.

Marking and Branding

If specified, poles may be obtained marked with individual company's name, size, length, and other designations as may be desirable. Complete instructions on the order will insure careful branding.

WEIGHT OF CARLOAD SHIPMENTS

The accompanying table shows the estimated weight of each size and class of pole so that the estimated weight of any given inquiry or order can be readily determined.

Railroad tariffs provide that shipments of poles shall weigh not less than the following in order to participate in through carload rates:

	Length Pole	Actual Wt., Lbs.
Single Cars	45 ft. and shorter	50,000
Single Cars	40 ft. and shorter	40,000
Double Loads	50 ft. and longer	66,000
Triple Loads	----------	99,000

On account of variation in pole weights due principally to seasoning (moisture evaporation), orders should provide for at least 25 per cent more weight than the railroad minimum requirement.

A.S.A. SPECIFICATIONS
Pounds per Pole

Class	1	2	3	4	5	6	7	8	9	10
Lgth.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
20 ft.	560	480	400	320	240	180	160	160	120	90
25 ft.	680	575	480	385	320	255	200	205	180	120
30 ft.	800	680	585	490	400	335	280	295	225	.....
35 ft.	960	800	680	600	520	450	375	405	.....	.....
40 ft.	1200	1040	880	720	640	560	560	.....	.....	.....
45 ft.	1440	1240	1040	920	800	800	.....	.....	.....	.....
50 ft.	1600	1440	1240	1120	1040	1040	.....	.....	.....	.....
55 ft.	1840	1600	1400	1280	1280	.....	.....	.....	.....	.....
60 ft.	2080	1760	1600	1520	.....	.....	.....	.....	.....	.....
65 ft.	2560	2000	1840	1760	.....	.....	.....	.....	.....	.....
70 ft.	2880	2400	2160	2080	.....	.....	.....	.....	.....	.....
75 ft.	3360	2880	2480	2400	.....	.....	.....	.....	.....	.....
80 ft.	4000	3360	2880	2800	.....	.....	.....	.....	.....	.....
85 ft.	4400	3600	3200	3200	.....	.....	.....	.....	.....	.....
90 ft.	5280	4480	3840	.....	.....	.....	.....	.....	.....	.....

A.S.A. DIMENSION TABLE

Class		1	2	3	4	5	6	7	8	9	10
Min. Top Circ. (Inches)		27	25	23	21	19	17	15	18	15	12
Length of Pole (Feet)	Ground Line Dist. from Butt (Feet)	MINIMUM CLEARANCE AT SIX FEET FROM BUTT (Inches)									
16	3½					23.0	21.5	19.5	No Butt Requirement	No Butt Requirement	No Butt Requirement
18	3½			28.5	26.5	24.5	22.5	21.0			
20	4	34.5	32.0	30.0	28.0	25.5	23.5	22.0			
22	4	36.0	33.5	31.5	29.0	27.0	25.0	23.0			
25	5	38.0	35.5	33.0	30.5	28.5	26.0	24.5			
30	5½	41.0	38.5	35.5	33.0	30.5	28.5	26.5			
35	6	43.5	41.0	38.0	35.5	32.5	30.5	28.0			
40	6	46.0	43.5	40.5	37.5	34.5	32.0				
45	6½	48.5	45.5	42.5	39.5	36.5					
50	7	50.5	47.5	44.5	41.0	38.0					
55	7½	52.5	49.5	46.0	42.5	39.5					
60	8	54.5	51.0	47.5	44.0						
65	8½	56.0	52.5	49.0	45.5						
70	9	57.5	54.0	50.5	47.0						
75	9½	59.5	55.5	52.0	48.5						
80	10	61.0	57.0	53.5	49.5						
85	10½	62.5	58.5	54.5							
90	11	63.5	60.0	56.0							

SOUTHERN YELLOW PINE POLES
CREOSOTE PRESSURE TREATED

Careful Piling of Poles for the Seasoning Process

Minimum sizes of poles under ASA specifications are shown in Table 1.

Approximate shipping weight of ASA and top measurement poles are shown in Table 2.

In ordering please specify at least 20% more than the minimum to take care of possible underweights.

Necessary Information for Ordering

1. Billing and shipping instructions, including railroad delivery point and delivering railroad.
2. Number, length and class or top measurement of poles desired.
3. Treatment. Standard is 8 pounds final retention AWPA T4-49 empty cell process.
4. Framing. Type of roof; number; location; size, type and dimension of gains and through bolt holes. (Sketch or print of framing is preferable.)
5. Number, location and dimension of step holes if desired. (Framing, except step holes, is included in the price of poles. Step holes are extra.)

TABLE 1
CIRCUMFERENCE TABLE FOR CREOSOTED SOUTHERN YELLOW PINE POLES

Length of Pole, Feet	Ground Line Dist. from Butt, Feet	Class 1	2	3	4	5	6	7	8	9	10
		Minimum Top Circumference, Inches									
		27	25	23	21	19	17	15	18	15	12
		Minimum Circumference at Six Feet from Butt, Inches									
16	3½					21.5	19.5	18.0			
18	3½			26.5	24.5	22.5	21.0	19.0			
20	4	31.5	29.5	27.5	25.5	23.5	22.0	20.0			
22	4	33.0	31.0	29.0	26.5	24.5	23.0	21.0			
25	5	34.5	32.5	30.0	28.0	26.0	24.0	22.0			
30	5½	37.5	35.0	32.5	30.0	28.0	26.0	24.0			
35	6	40.0	37.5	35.0	32.0	30.0	27.5	25.5			
40	6	42.0	39.5	37.0	34.0	31.5	29.0	27.0			
45	6½	44.0	41.5	38.5	36.0	33.0	30.5	28.5			
50	7	46.0	43.0	40.0	37.5	34.5	32.0	29.5			
55	7½	47.5	44.5	41.5	39.0	36.0	33.5				
60	8	49.5	46.0	43.0	40.0	37.0	34.5				
65	8½	51.0	47.5	44.5	41.5	38.5					
70	9	52.5	49.0	46.0	42.5	39.5					
75	9½	54.0	50.5	47.0	44.0						
80	10	55.0	51.5	48.5	45.0						
85	10½	56.5	53.0	49.5							
90	11	57.5	54.0	50.5							

No Butt Requirement

No Butt Requirement

No Butt Requirement

TABLE 2
WEIGHTS OF CREOSOTED SOUTHERN YELLOW PINE POLES

Length of Pole Feet	Class 1	2	3	4	5	6	7	8	9	10
16					234	202	165	188	138	110
18			381	325	275	234	188	211	151	133
20	710	564	467	394	330	284	234	261	202	161
22	825	674	559	463	398	339	284	307	234	188
24	990	811	674	573	491	422	344	389	289	234
25	1279	1082	921	784	660	550	454	513	371	
35	1568	1343	1155	1004	862	743	646	697		
40	1884	1623	1403	1219	1059	921	807			
45	2223	1911	1664	1444	1274	1114	976			
50	2585	2214	1925	1687	1494	1329	1169			
55	2993	2567	2200	1934	1719	1563				
60	3451	2943	2512	2186	1953	1801				
65	4015	3341	2814	2457	2237					
70	4620	3781	3144	2732	2488					
75	5198	4235	3506	3021						
80	6400	5170	4240	3615						
85	7200	5745	4690							
90	8140	6405	5160							

Minimum Weights Required for Carload Shipments of Southern Pine Poles

Single Car	36,000 pounds
Double Loads	60,000 pounds
Triple Loads	84,000 pounds

Note: 20% over minimum required should be added to cover variations in weight. Using above weights per pole, to determine safe minimum quantities, for Single loads figure 43,000 pounds, for Double loads figure 72,000 pounds, for Triple loads figure 100, 800 pounds.

STANDARD FIR CROSS ARMS

Fir Cross Arms are furnished pursuant to EEI-TD90 Specifications. In ordering cross arms specify just what is wanted, and if other than standard boring send sketch or blue print with order. Arms specially made are of no use for general stock and cannot be returned if mistake is made in ordering. Any change required from standard spacing pin or bolt holes as given must be specified.

The following catalog numbers cover dimensions, length, number of pin holes, spacing, etc., but **not Diameter of Pin Holes.** This should be shown on all orders.

3¼ x4¼ Electric Light Arms or Heavy Telephone Arms

Cat. No.	Ft. Bm. Per 100 Arms	Length Arm	No. Pins	Pin Holes—Spacings, Inches—Center	Sides	Ends	Size Inches	Center Bolt Hole In.	*Brace Bolt Spacing	Use Length Brace	Weight Pounds Per 100
J5800	393.75	3 ft.	2	28	----	4		5/8	25	20	1062
J5801	525.0	4 ft.	4	16	12	4		5/8	28	22	1416
J5802	656.25	5 ft.	4	18	17	4		5/8	28	22	1770
J5803	787.5	6 ft.	4	22	21	4		5/8	32	24, 26	2124
J5804	787.5	6 ft.	6	16	12	4		5/8	32	24, 26	2124
J5805	1050.0	8 ft.	6	18	17½	4		5/8	32	24, 26	2832
J5806	1050.0	8 ft.	8	16	12	4		5/8	32	24, 26	2832
J5807	1181.25	8 ft. 6 in.	10	16	9¾	4		5/8	32	24, 26	3009
J5808	1312.5	10 ft.	8	17½	15¾	4		5/8	42	30, 32	3540
J5809A	1312.5	10 ft.	10	16	12	4		11/16	42	30, 32	3540
J5809B	1312.5	10 ft.	10	32	10	4		11/16	42	30, 32	3540
J5810	1312.5	10 ft.	12	16	9⅝	3⅞		5/8	42	30, 32	3540
3x4¼ Western-Union Arms											
J5920	787.5	6 ft.	6	20	11½	3		31/32	----	----------	1980
J5921	1050.0	8 ft.	8	21	11½	3		31/32	----	----------	2640
J5922	1312.5	10 ft.	10	22	11½	3		31/32	----	----------	3300
2¾x3¾ Pony Telephone Arms											
J5822	450.0	3 ft. 6 in.	4	16	9½	3½		5/8	28	22	945
J5823	600.0	5 ft. 2 in.	6	16	9¾	3½		5/8	28	22	1395
J5824	700.0	6 ft. 10 in.	8	16	9¾	3¾		5/8	28	22	1845
J5825	900.0	8 ft. 6 in.	10	16	9¾	4		5/8	28	22	2295
J5826	1000.0	10 ft.	12	16	9⅝	3⅞		5/8	28	22	2700
3¼x4¼ N.E.L.A. (Light) Arms											
J5833	525.0	3 ft. 2 in.	2	30	----	4		11/16	28	22	1120
J5834	787.5	5 ft. 7 in.	4	30	14½	4		11/16	38	28	1976
J5835	1050.0	8 ft.	6	30	14½	4		11/16	38	28	2832
J5836	1312.5	9 ft. 2 in.	8	30	12	4		11/16	38	28	3245
3½x4½ N.E.L.A. Arms											
J5828	593.7	3 ft. 2 in.	2	30	----	4		11/16	28	22	1267
J5829	890.6	5 ft. 7 in.	4	30	14½	4		11/16	38	28	2233
J5830	1187.5	8 ft.	6	30	14½	4		11/16	38	28	3200
J5831	1484.4	9 ft. 2 in.	8	30	12	4		11/16	38	28	3667
3½x4½ REA Distribution Arms											
J5929	593.7	4 ft.	2	----	----	--		Drawing M19R-REA Specification			
J5927	890.6	5 ft. 7 in.	4	----	----	--		Drawing M19R-REA Specification			
J5934	1187.5	8 ft.	4	----	----	--		Drawing M19R-REA Specification			
J5928	1187.5	8 ft.	6	----	----	--		Drawing M19R-REA Specification			
3¾x4¾ REA Distribution Arms											
J5936	1333.3	8 ft.	4	----	----	--		Drawing M19R-REA Specification			
J5938	1666.7	10 ft.	6	----	----	--		Drawing M19R-REA Specification			
3¼x4¼ New England Arms											
J5838	393.75	3 ft.	2	30	----	3		11/16	33	26	1062
J5839	787.5	5 ft. 6 in.	4	30	13½	4½		11/16	36	28	1947
J5840	1050.0	7 ft. 9 in.	6	30	13½	4½		11/16	36	28	2743
J5841	1312.5	10 ft.	8	30	13½	4½		11/16	36	28	3540
3¾x4¾ New England Power Arms											
J5843	500.0	3 ft.	2	30	----	3		11/16	33	24, 26	1398
J5844	1000.0	5 ft. 6 in.	4	30	13½	4½		11/16	36	28	2563
J5845	1333.3	7 ft. 9 in.	6	30	13½	4½		11/16	36	28	3612
J5846	1666.7	10 ft.	8	30	13½	4½		11/16	36	28	4660
3¾x4¾ Transmission Arm											
J5859	1666.7	10 ft.	4	38	36	5		13/16	60	†	4660

Specify Pin Hole Diameters On All Orders

All cross arms may be furnished treated or untreated. Treating may be had by the dip process, hot and cold immersion, or pressure.

*All arms are bored 7/16-inch for ⅝-inch bolts unless otherwise specified.

†Vertical boring for No. 1508 or 1510 double span angle brace.

STANDARD CROSSARMS
(Continued)

The U.S. Forestry Service has made elaborate tests of different woods for crossarms and the results of these tests proved beyond doubt that Douglas fir is best suited for this purpose.

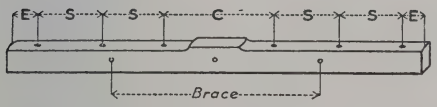
Pacific Coast Mills season crossarm material by kiln drying. The most modern equipment is employed in this work.

East Coast Mills season through air drying. Material is scientifically piled and stripped under cover in well-ventilated buildings to permit slow, uniform seasoning.

All standard crossarms are manufactured according to boring specifications on the preceding page. Orders for arms bored other than standard should be accompanied by a sketch or blue print. Arms specially manufactured are not subject to cancellation.

Minimum carload weight from the Pacific Coast is 38,000 pounds. Weight should be specified up to at least 45,000 pounds as the minimum is established on the size of the car used, and small cars are not readily obtainable. The minimum carload weight from Eastern mills and warehouse stocks is 36,000 pounds.

ORDERING INSTRUCTIONS



Please use following instructions when placing your order for crossarms. Any change required from standard spacings, pin holes or bolt holes must be distinctly specified on your order.

Explanation: E-End, S-Side and C-Center.

Give quantity wanted; material and quality (or grade); treatment (if any); width in inches (and fraction); height in inches (and fraction); length in feet and inches; number of pin holes; size of pin holes, spacing between pin holes (center, side, end); space between brace bolt holes; size of center bolt and brace bolt holes.

OAK BRACKETS AND POLE STEPS

Bracket

Step

Blue Diamond brackets and pole steps are carefully manufactured from seasoned stock. Brackets are furnished either painted or unpainted as desired.

Pole Brackets

Size Inches	Wt. Lbs. Per 1000
1½ x 2 x 10	600
1½ x 2 x 12	800
1½ x 2¼ x 12	825
1⅝ x 2 x 12	800
2 x 2¼ x 12	950
2 x 2⅝ x 12	1000
2 x 2¾ x 12	1100

Pole Steps

1½ x 2 x 7	500
1¾ x 2⅝ x 7	700

WOOD INSULATOR PINS

1½ x 9" Pin

Heavy Duty Pin

Blue Diamond pins are selected from best grade of locust or oak obtainable. Packed in bags stenciled and tagged showing contents. Minimum carload 80,000 1½ x 9-inch pins.

Size Inches	Wt. Lbs. Per 1000
1¼ x 8	325
1¼ x 9	400
1½ x 9	450
1½ x 12-1 top	725
1½ x 12-1⅜ top	800
1¾ x 12-1 top	1200
1¾ x 12-1⅜ top	1300

MITCO MOULDINGS

ROUND TREE MOULDING

Protects wires running through trees. 8-foot lengths are standard.

Size Hole, In.	Finish	Wt .Lbs. Per 1000 Ft.
½	Creosoted	180
¾	Creosoted	270
1	Creosoted	330
1¼	Creosoted	475
1½	Creosoted	630

CABLE MOULDING

Used for telephone and telegraph construction work. Furnished in 8-foot lengths. I.T.S. specifications.

Size Groove Inches	Description	Wt. Lbs. Per 1000 Ft.
½	Creosoted	90
1	Creosoted	230
1¼	Creosoted	270
1½	Creosoted	290
2	Creosoted	350

LOOM MOULDING

For covering flexible looms. Bundled in 6, 8 and 10 ft. lengths. Unfinished.

Cat. No.	Description	Outside Dimens., In.	Wt. Lbs. Per 1000 Ft.
75158	For two 3/32-in. looms	¾ x 1⅝	150
75159	For three 3/32-in. looms	¾ x 2¼	200

GROUND WIRE POLE MOULDING

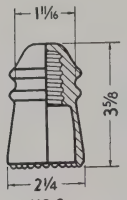
Made from clear, thoroughly seasoned, Ponderosa pine or fir. Furnished in 8 and 10-foot lengths. 8-foot lengths are standard.

Cat. No.	Size of Groove Inches	Price Per 1000 Feet — Penta-chlorated	Creosoted	Unfinished
1	½	----------	----------	----------
2	¾	----------	----------	----------
3	1	----------	----------	----------

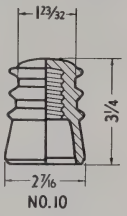
Prices on request.

HEMINGRAY TELEPHONE AND TELEGRAPH INSULATORS

Methods for testing Hemingray insulators are those established by A.S.T.M. D-468-42 Standard Methods of Testing Pin-type, Lime-glass Insulators. Hemingray insulators will also meet product specifications of various utilities companies and the Association of American Railroads specification for double-petticoat glass Insulators 1-A-33.

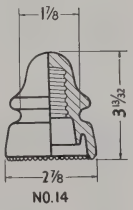


Hemingray No.	9
Number per carton	50
Weight per carton...lbs.	31½
Approx. wt. 1000 pcs...lbs.	630

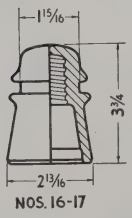


Hemingray No.	10
Number per carton	50
Weight per carton...lbs.	34½
Approx. wt. 1000 pcs...lbs.	690

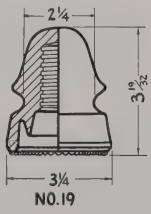
Hemingray No.	12
Number per carton	50
Weight per carton...lbs.	31½
Approx. wt. 1000 pcs...lbs.	630



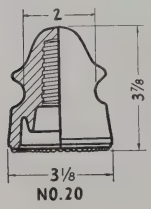
Hemingray No.	14
Number per carton	50
Weight per carton...lbs.	37½
Approx. wt. 1000 pcs...lbs.	750



Hemingray No.	16–17
Number per carton	50
Weight per carton...lbs.	52½
Approx. wt. 1000 pcs...lbs.	1050

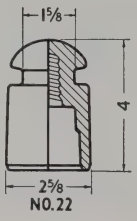


Hemingray No.	19
Number per carton	50
Weight per carton...lbs.	59½
Approx. wt. 1000 pcs...lbs.	1190

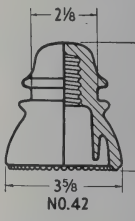


Hemingray No.	20
Number per carton	50
Weight per carton...lbs.	58
Approx. wt. 1000 pcs...lbs.	1160

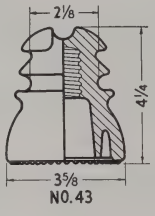
HEMINGRAY TELEPHONE AND TELEGRAPH INSULATORS



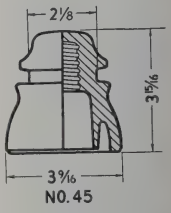
Hemingray No.	22
Number per carton	50
Weight per carton...lbs.	55
Approx. wt. 1000 pcs...lbs.	1100



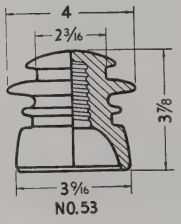
Hemingray No.	42
Number per carton	40
Weight per carton...lbs.	62
Approx. wt. 1000 pcs...lbs.	1550



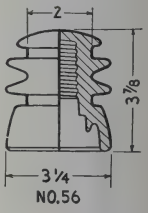
Hemingray No.	43
Number per carton	30
Weight per carton...lbs.	59
Approx. wt. 1000 pcs...lbs.	1963



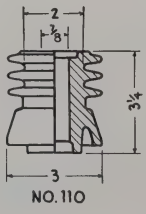
Hemingray No.	45
Number per carton	40
Weight per carton...lbs.	65
Approx. wt. 1000 pcs. ...lbs.	1625



Hemingray No.	53
Number per carton	30
Weight per carton...lbs.	58½
Approx. wt. 1000 pcs. ...lbs.	1950



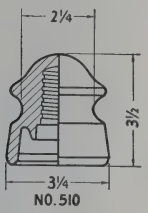
Hemingray No.	56
Number per carton	40
Weight per carton...lbs.	59
Approx. wt. 1000 pcs. ...lbs.	1475



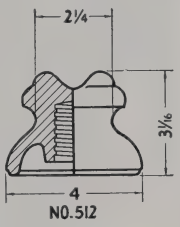
Hemingray No.	110
Number per carton	40
Weight per carton...lbs.	49½
App. wt. 1000 pcs...lbs.	1238

HEMINGRAY POWER INSULATORS

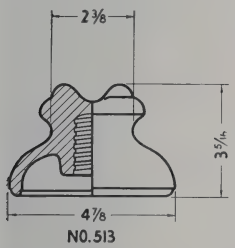
Each lot is tested under methods set by the American Institute of Electrical Engineers in specifications No. 41-1944 (ASA C 29-1944), and by the American Society for Testing Materials D730-43T. Inspection is conducted in accordance with Edison Electric Institute specifications TD-51-1942.



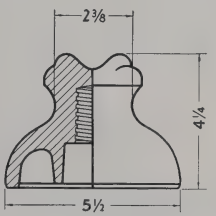
Hemingray No.	510
Flashover in K.W.:	
60 Cycle Dry	35
60 Cycle Wet	20
1½ x 40 Wave	75
Leakage Distance ...inches	4
Arcing Distance:	
Dry ...inches	2⅜
Wet ...inches	1
Mech. Strength ...lbs.	3000
Min. Pin Height...inches	4
Standard Package	50
Weight, Std. Pkg...lbs.	64



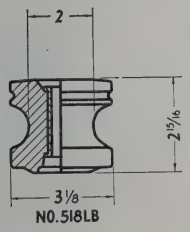
Hemingray No.	512
Flashover in K.W.:	
60 Cycle Dry	50
60 Cycle Wet	25
1½ x 40 Wave	85
Leakage Distance ...in.	4
Arcing Distance:	
Dry ...in.	3
Wet ...in.	1¼
Mech. Strength ...lbs.	2500
Min. Pin Height...in.	4
Standard Package	40
Weight, Std. Pkg.	55



Hemingray No.	513
Flashover in K.W.:	
60 Cycle Dry	60
60 Cycle Wet	35
1½ x 40 Wave	95
Leakage Dis. ...in.	5
Arcing Distance:	
Dry ...in.	4
Wet ...in.	1¾
Mech. Str. ...lbs.	2500
Min. Pin Height..in.	5
Standard Package	30
Wt. Std. Pkg...lbs.	56

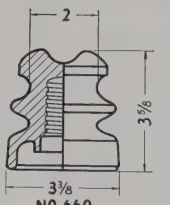


Hemingray No.	514
Flashover in K.W.:	
60 Cycle Dry	70
60 Cycle Wet	40
1½ x 40 Wave	120
Leakage Distance..in.	8
Arcing Distance:	
Dry ...in.	4⅝
Wet ...in.	2
Mech. Strength...lbs.	2500
Min. Pin Height...in.	5
Standard Package	18
Wt. Std. Pkg...lbs.	53

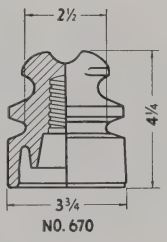


Hemingray No.	518
Flashover in K.W.:	
60 Cycle Dry	
60 Cycle Wet	
1½ x 40 Wave	
Leakage Distance:	
Dry ...in.	
Wet ...in.	
Mech. Strength...lbs.	4000
Min. Pin Height...in.	
Standard Package	50
Weight, Std. Pkg...lbs.	69½

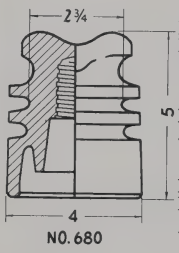
HEMINGRAY POWER INSULATORS



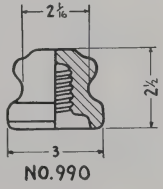
Hemingray No.	660
Flashover in K.W.:	
60 Cycle Dry	55
60 Cycle Wet	35
1½ x 40 Wave	85
Leakage Distance ...in.	5⅛
Arcing Distance:	
Dry ...in.	3½
Wet ...in.	1
Mech. Strength ...lbs.	2500
Min. Pin Height...in.	4
Standard Package	40
Weight, Std. Pkg...lbs.	55



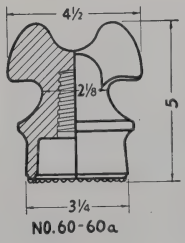
Hemingray No.	670
Flashover in K.W.:	
60 Cycle Dry	65
60 Cycle Wet	40
1½ x 40 Wave	100
Leakage Distance ...in.	7½
Arcing Distance:	
Dry ...in.	4½
Wet ...in.	1⅛
Mech. Strength ...lbs.	2500
Min. Pin Height...in.	5
Standard Package	24
Weight, Std. Pkg...lbs.	51½



Hemingray No.	680
Flashover in K.W.:	
60 Cycle Dry	70
60 Cycle Wet	45
1½ x 40 Wave	120
Leakage Distance ...in.	9½
Arcing Distance:	
Dry ...in.	5
Wet ...in.	1¼
Mech. Strength ...lbs.	2500
Min. Pin Height...in	5½
Standard Package	20
Weight, Std. Pkg...lbs	61



Hemingray No.	990
Flashover in K.W.:	
60 Cycle Dry	
60 Cycle Wet	
1½ x 40 Wave	
Leakage Distance ...in.	3
Arcing Distance:	
Dry ...in.	2
Wet ...in.	1
Mech. Strength ...lbs.	2500
Min. Pin Height...in.	4
Standard Package	50
Weight, Std. Pkg...lbs.	47

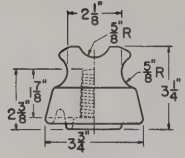


Hemingray No.	60-60a
Flashover in K.W.:	
60 Cycle Dry	50
60 Cycle Wet	24
1½ x 40 Wave	75
Leakage Distance ...in.	4
Arcing Distance:	
Dry ...in.	3
Wet ...in.	1
Mech. Strength ...lbs.	2500
Min. Pin Height...in.	4
Standard Package	24
Weight, Std. Pkg...lbs.	49

LOCKE INSULATORS

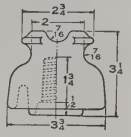
LOW-VOLTAGE PIN TYPE INSULATORS

No. 2 Pin Type Insulators



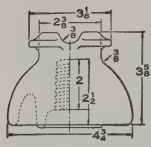
Dry Arc-over Volt.	50,000
Wet Arc-over Volt.	25,000
Leakage Distance, In.	4
Mech. Strength, lb.	2,500
Min. Height Pin, In.	4
Size Pin Hole, In.	1
Net Wt., each, lb.	1.30
Packed Wt., each, lb.	1.50
Standard Package	50

No. 8881 Pin Type



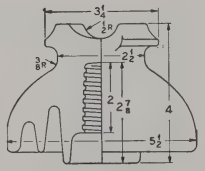
Dry Arc-over Voltage	50,000
Wet Arc-over Voltage	25,000
Leakage Distance, in.	5
Mechanical Strength, lbs.	2,500
Minimum Height Pin, in.	4
Size Pin Hole, in.	1
Net Wt., each, lbs.	1.4
Packed Wt., each, lbs.	1.6
Standard Package	50

No. 9995 Pin Type

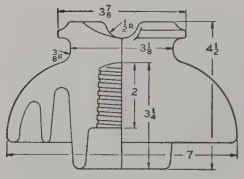


Dry Arc-over Voltage	65,000
Wet Arc-over Voltage	35,000
Leakage Distance, in.	7
Mechanical Strength, lbs.	2,500
Minimum Height Pin, in.	5
Size Pin Hole, in.	1
Net Wt., each, lbs.	2.2
Packed Wt., each, lbs.	2.9
Standard Package	27

No. 6510 Pin Type



Dry Arc-over Volt.	70,000
Wet Arc-over Volt.	40,000
Leakage Dist., in.	9
Mech. Strength, lbs.	3,000
Min. Hght. Pin, in.	5
Size Pin Hole, in.	1
Net Wt., each, lbs.	3.2
Pkg. Wt., each, lbs.	3.6
Standard Package	24

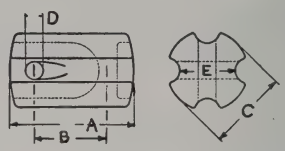


No. 23514 Pin Type

Dry Arc-over V	85,000
Wet Arc-over V	45,000
Leak. Dist., in.	12
Mech. Strgh, lbs.	3,000
Min. Ht. Pin, in.	6
Size Pin Hole, in.	1
Net Wt., ea., lbs.	6.2
Pkg. Wt., ea., lbs.	6.7
Standard Pkg.	8

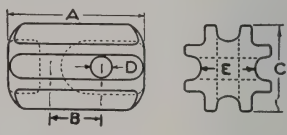
LOCKE GUY INSULATORS

Nos. 502, 504 and 506



Insulator No.	502	504	506
Dry Arc-over Voltage	25,000	30,000	35,000
Wet Arc-over Voltage	12,000	15,000	18,000
Mechanical Strength, lb.	10,000	12,000	20,000
Use cable not over, dia.	3/8	1/2	5/8
Dimension A ....inches	3 1/2	4 1/2	5 1/2
Dimension B ....inches	1 3/4	2 1/4	3 1/8
Dimension C ....inches	2 1/2	2 7/8	3 3/8
Dimension D ....inches	5/8	7/8	1
Dimension E ....inches	1 3/4	2 1/8	2 3/8
Net Weight each, lb.	1.02	1.64	3.25
Packed Wt. each, lb.	1.10	1.72	3.40
Standard Package	50	50	25

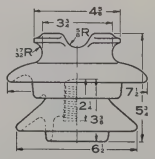
No. 7666



Insulator No.	7666
Dry Arc-over Voltage	40,000
Wet Arc-over Voltage	23,000
Mechanical Strength, lb.	20,000
Use cable not over, diam.	5/8
Dimension A.....inches	6 3/4
Dimension B.....inches	2 5/8
Dimension C.....inches	3 1/2
Dimension D.....inches	1
Dimension E.....inches	2 3/8
Net Weight each, lb.	4 1/4
Packed Weight each, lb.	4 1/2
Standard Package	16

LOCKE MULTI-PART PIN TYPE INSULATORS

Regularly furnished with 1 3/8-inch metal-threaded pin hole, standard N.E.M.A. thread.



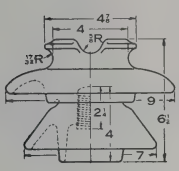
No. 1027 Insulator

Dry Arc-over Voltage	95,000
Wet Arc-over Voltage	60,000
Leakage Distance, in.	13
Mech. Strength, lbs.	2,500
Min. Height Pin, in.	6
Net Weight, each, lbs.	7 3/4
Packed Wt., each, lbs.	9
Standard Package	8

Locke Pin-Type insulators also are available "Metaglazed" for elimination of radio interference. When desired, order by regular catalog number adding suffix NP.

LOCKE INSULATORS

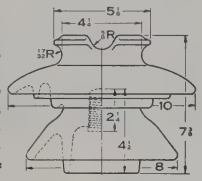
Multi-Part PIN TYPE INSULATORS



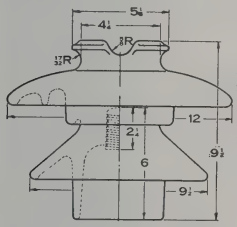
No. 1035 Insulator

Dry Arc-over Volt.	110,000
Wet Arc-over Volt.	70,000
Leakage Distance, in.	17
Mech. Strength, lbs.	3,000
Min. Height Pin, in.	7
Net Weight, each, lbs.	10½
Packed Wt., each, lbs.	11½
Standard Package	8

No. 1044 Insulator



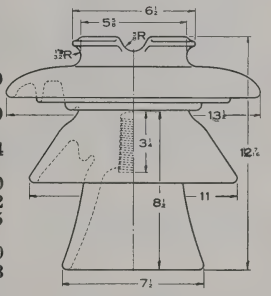
Dry Arc-over Volt.	125,000
Wet Arc-over Volt.	80,000
Leakage Dist., in.	21
Mech. Strength, lbs.	3,000
Min. Height Pin, in.	8
Net Wt., each, lbs.	15
Packed Wt., ea., lbs.	17¼
Standard Package	4



No. 1055 Insulator

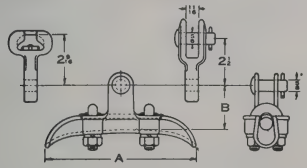
Dry Arc-over V.	140,000
Wet Arc-over V.	95,000
Leakage Dist., in.	27
Mech. Strgth., lbs.	3,000
Min. Hght Pin, in.	10
Net Wt., ea., lbs.	22
Pkg. Wt., ea., lbs.	26
Standard Pkg.	2

No. 1066 Insulator



Dry Arc-over Voltage	170,000
Wet Arc-over Voltage	125,000
Leakage Distance, in.	34
Mech. Strength, lbs.	3,000
Min. Ht. Pin, in.	12
Net Wt., ea., lbs.	35
Packed Weight, each, lbs.	50
Standard Pkg.	3

LOCKE SUSPENSION CLAMPS

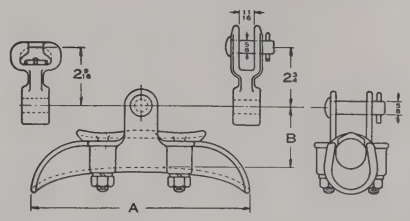


Suspension Clamps with "J" Bolts

Cat. No.	A	B	Min. Cable	Groove Dia.	Ultimate Strength Lbs.	Approx. Lbs. Net	Wt. per C Packed
46200A*	6½	2⅛	.125	.46	15000	315	325
46230A†	6½	2⅛	.125	.46	15000	315	325
46240A‡	6½	2⅛	.125	.46	15000	215	225
46201A*	6½	2⅛	.312	.60	17000	320	330
46231A†	6½	2⅛	.312	.60	17000	320	330
46241A‡	6½	2⅛	.312	.60	17000	220	230

Type Connector—*Socket, †Clevis, ‡None.

LOCKE SUSPENSION CLAMPS



Suspension Clamps with "U" Bolts

Cat. No.	A	B	Min. Cable	Groove Dia.	Ultimate Strength Lbs.	Approx. Lbs. Net	Wt. per C Packed
46202A*	7¼	2 5/16	.50	.70	18000	420	430
46232A†	7¼	2 5/16	.50	.70	18000	420	430
46242A‡	7¼	2 5/16	.50	.70	18000	315	325
46203A*	7¼	2 5/16	.50	.82	18000	430	440
46233A†	7¼	2 5/16	.50	.82	18000	430	440
46243A‡	7¼	2 5/16	.50	.82	18000	325	335

Suspension Clamps with "U" Bolts

Cat. No.	A	B	Min. Cable	Groove Dia.	Ultimate Strength Lbs.	Approx. Lbs. Net	Wt. per C Packed
46204A*	8	2 7/16	.625	1.00	22000	480	495
46234A	8	2 7/16	.625	1.00	22000	480	495
46244A	8	2 7/16	.625	1.00	22000	375	390
46205A*	8	2 7/16	.625	1.15	22000	490	505
46235A	8	2 7/16	.625	1.15	22000	490	505
46245A	8	2 7/16	.625	1.15	22000	385	400

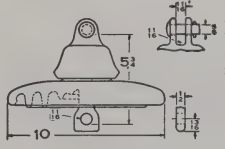
"J"-Bolts are specified by adding "J" to the catalog number. "U"-Bolts are specified by adding "U" to the catalog number.

Type Connector—*Socket, †Clevis, ‡None.

All Locke clamps can be furnished with aluminum or copper liners at a slight extra cost. If required, specify which. Standard .050 inch liners reduce the effective groove diameter by .100 inch.

LOCKE SUSPENSION INSULATORS

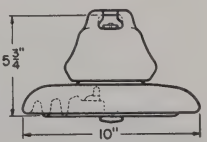
No. 580 Standard Strength



Imp. Strgth., In-lb.	55
Mech. Strgth., lb.	15,000
Dry Arc-ov'r Volt.	80,000
Wet Arc-ov'r Volt.	50,000
Net Wt., each, lb.	11
Pack. Wt., ea., lb.	12½
Standard Package	6

No. 18425 High Strength Suspension Insulator

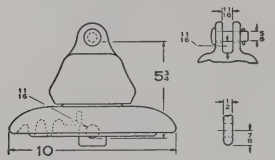
Impact Strength, In.-lb.	60
Mechanical Strength, lb.	25,000
Dry Arc-over V.	80,000
Wet Arc-over V.	50,000
Net Wt., each, lb.	15
Pkg. Wt. each, lb.	17
Standard Package	6



Locke Pin-Type insulators also are available "Metaglazed" for elimination of radio interference. When desired, order by regular catalog number adding suffix NP.

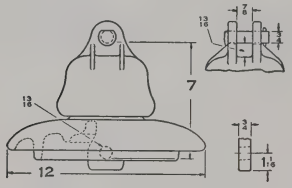
LOCKE SUSPENSION INSULATORS

No. 7500 High Strength



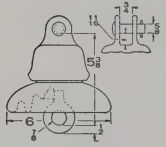
Impact Strength, In-lb.	60
Mech. Strength, lb.	25,000
Dry Arc-over Volt	80,000
Wet Arc-over Volt	50,000
Net Weight, each, lb.	15
Package Weight, each, lb.	17
Standard Package	6

No. 15000 Extra High Strength



Impact Strength, In-lb.	50
Mech. Strength, lb.	36,000
Dry Arc-over Volt	95,000
Wet Arc-over Volt	55,000
Net Weight, each, lb.	25
Package Weight, each, lb.	30
Standard Package	6

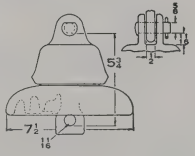
No. 16583 Regular



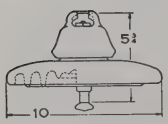
Impact Strgth., In-lb.	45
Dry Arc-over Volt	60,000
Wet Arc-over Volt	30,000
Net Wt., each, lb.	5¼
Pack. Wt., each, lb.	5¾
Standard Package	8

No. 5875 Regular

Impact Strgth., In-lb.	50
Dry Arc-over Volt	65,000
Wet Arc-over Volt	35,000
Net Wt., each, lb.	8
Pack. Wt., each, lb.	9
Standard Package	8



No. 1840 Standard Strength

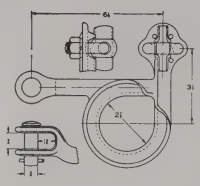


Impact Strgth., In-lb.	55
Mech. Strgth., lb.	15,000
Dry Arc-over Volt	80,000
Wet Arc-over Volt	50,000
Net Wt., each, lb.	11
Pack. Wt., each, lb.	12½
Standard Package	6

LOCKE CLAMPS

STRAIN CLAMPS

No. 20087



Clamp No. 20087 has been very extensively used on low-voltage lines and has proved eminently satisfactory for all types of conductors.

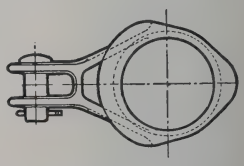
The snubbing principle on which this clamp depends for its high holding-power spreads the grip over such a large area that overstressing the conductor at any point is impossible.

The jumper can be carried in any position with reference to the line from directly above to directly below.

Cable diameter, inches	.160 to .550
Wt. per 100, packed	300

DEAD-END AND ANGLE CLAMPS

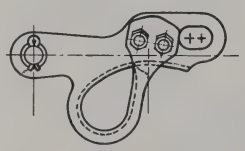
No. 42400 Clamp



This clamp is suited for all types of conductors generally used on rural or light duty transmission and distribution lines. The same method of tying is used as is standard where turns are made with the conductor placed in the side groove of a pin type insulator. With suitable clips or connectors it may equally well be used for dead-ending.

Cable diameter, inches	up to .75
Wt. lb., per 100, packed	112

No. 42106 Clamp



A reliable, inexpensive clamp for dead-ending distribution and low-voltage rural lines. It is for use with stranded copper and Copperweld conductors, and for stranded steel and Amerductor having a strength of 4000 pounds or less. Light weight and short snubbing length minimize the effects of conductor vibration. It has a one piece body made of 11 gauge steel with no riveted or welded joints. The ultimate strength is 7000 pounds, and it develops a slip strength of at least 90% of the ultimate strength of cables for which it is recommended.

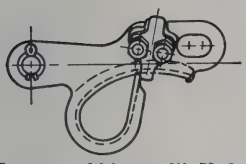
Cable diameter, inches	.160 to .365
Wt. lb., per 100, packed	150

All Locke clamps can be furnished with aluminum or copper liners at a slight extra cost. If required, specify which. Standard .050 inch liners reduce the effective groove diameter by .100 inch.

LOCKE CLAMPS

DEAD-END AND ANGLE CLAMPS

No. 42107 Clamp



This clamp is for use with aluminum conductor. It is formed of heavy gauge steel, and is furnished with aluminum liners which make unnecessary the expensive use of field-applied tape. Large snubbing radii, U-shaped cable seat and long clamping section prevent damage to the conductor. More than adequate ultimate strength for the conductors for which it is offered. Forged steel keepers, with double wave grip, are lined with soft aluminum sheet.

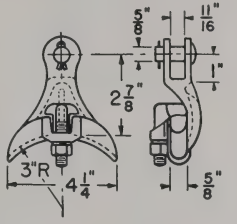
Cable diameter, inches	.158 to .398
Wt. lb., per 100, packed	200

No. A-2260 Clamp

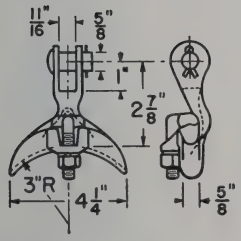
Malleable iron—hot dip galvanized -distribution type strain clamp.

Application: All conductors within range. Side opening type. Used for angles up to 120 degrees.

Cable Dia. In.	Wt. Lbs. Per 100
.200 to .600	145



No. A-2270 Clamp



Malleable iron—hot dip galvanized distribution type strain clamp.

Application: Same as clamp A-2260 above except clevis is at right angles.

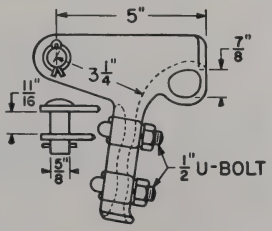
Cable Dia. In.	Wt. Lbs. Per 100
.200 to .600	145

No. A-2050 Clamp

Malleable iron—hot dip galvanized distribution type strain clamp.

Application: All conductors including A.C.S.R. No. 4 to 1/0.

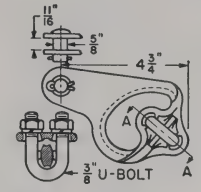
Cable Dia. In.	Wt. Lbs. Per 100
.200 to .500	320



LOCKE CLAMPS

DEAD-END AND ANGLE CLAMPS

No. A-1437 Clamp



Malleable iron—hot dip galvanized distribution type strain clamps.

Application: All conductors within range except A.C.S.R. particularly good for Copperweld and Stranded copper.

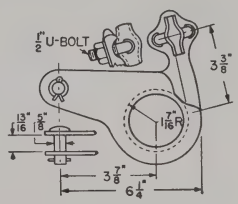
Cable Dia. In.	Wt. Lbs. Per 100
.145 to .375	135

No. 1655 Clamp

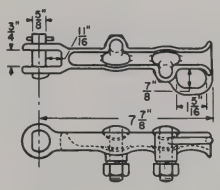
Malleable iron—hot dip galvanized distribution type strain clamps.

Application: All conductors within range except larger sizes of A.C.S.R., Copperweld and steel.

Cable Dia. In.	Wt. Lbs. Per 100
.160 to .550	270



No. 20282 Clamp



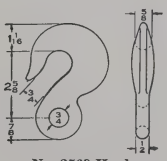
Malleable iron—hot dip galvanized distribution type strain clamp.

Application: For copper, Copperweld or Amerductor within range. Low cost. "Come-along" eye. Conductor inserted without removing keeper bolts. Easily rubber shielded.

Cable diameter, inches	.250 to .528
Weight Lbs. per 100	233

LOCKE SUSPENSION-TYPE INSULATOR ATTACHMENTS

HOOKS AND LINKS FOR CLEVIS TYPE INSULATORS

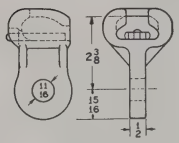


No. 2569 Hook

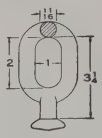
Cat. No.	Material	Strength Lbs.	Wt. Lbs. Packed Per 100
2569	Forged Steel Hook	25000	100

LOCKE SUSPENSION-TYPE INSULATOR ATTACHMENTS

CONNECTORS FOR SOCKET TYPE INSULATORS



No.8407



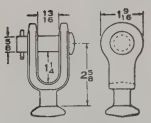
No. 43014

Cat. No.	Material	Strength Lbs.	Wt. Lbs. Packed Per 100
8407	Malleable Iron	18000	112
43014	Forged Steel	25000	85

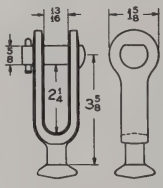
No. 43012 Forged Steel Ball Eye Suspension Fitting

Cat. No.	Material	Strength Lbs.	Wt. Lbs. Packed Per 100
43012	Forged Steel	2000	65

CLEVIS CONNECTORS AND CLEVISES



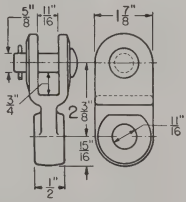
No. 8418
Clevis for Socket-Type Insulator



No. 8421
Clevis for Socket-Type Insulator

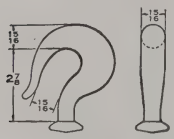
Cat. No.	Material	Strength Lbs.	Wt. Lbs. Packed Per 100
8418	Forged Steel	25000	90
8421	Forged Steel	25000	100

No. 27399 Malleable Iron Clevis Eye Suspension Fitting



Strength lbs.	Wt. Lbs. Packed Per 100
18,000	112

HOOKS FOR SOCKET TYPE INSULATORS

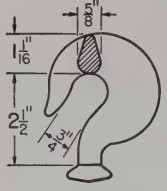


No. 8440

No. 13139

Cat. No.	Material	Strength Lbs.	Wt. Lbs. Packed Per 100
8440	Forged Steel	25000	132
13139	Forged Steel	20000	110

LOCKE SUSPENSION-TYPE INSULATOR ATTACHMENTS

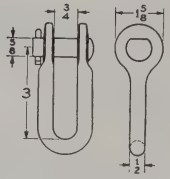


No. 8404 Steel Ball Hook Suspension Fittings

Cat. No.	Material	Wt. Lbs. Packed Per 100
8404	Forged Steel	105

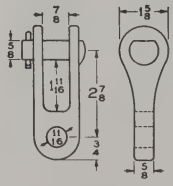
Strength, lbs. 25,000.

CLEVISES FOR CLEVIS TYPE INSULATORS



No. 3641

No. 27105



No. 2263 Clevis

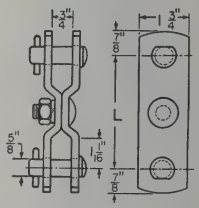
Cat. No.	Material	Strength Lbs.	Wt. Lbs. Packed Per 100
3641	Forged Steel	20000	87
27105	Forged Steel	25000	90
2263	Malleable Iron	18000	125

No. 43072 Forged Steel Clevis Suspension

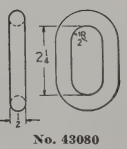
Strength, lb. 18,000

Wt. varies with length.

"L" dimension to be specified.



LINKS



No. 43080

Cat. No.	Material	Ultimate Strength Lbs.	Wt. Lbs. Packed Per 100
43080	Forged Steel	20000	51

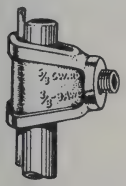
LOCKE POLE LINE HARDWARE
COPPERWELD GROUND RODS

Plain Type

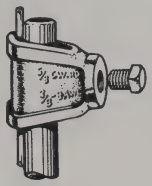
Cat. No.	Diam. In.	Length Feet	Std. Pkg.	Wt. Lbs. Per 100
8426	½	6	10	370
8428	½	8	10	490
8430	½	10	10	615
8436	⅝	6	10	580
8438	⅝	8	10	775
8440	⅝	10	10	965
8448	¾	8	5	1120
8450	¾	10	5	1400
8452	¾	12	5	1680

Other sizes available.

COPPERWELD GROUND ROD CLAMPS



With Safety Set Screw



With Square Head Set Screw

Type "A"

Cat. No. With Safety Set Screw	Cat. No. With Sq. Head Set Screw	Rod Size Inches	Wire Size Awg.	Std. Pkg.	Wt. Lbs. Per 100
8491	**8591**	½	4–10	100	25
8492	**8592**	⅝	2–8	100	35
8493	**8593**	¾	2–8	100	45

BRONZE GROUND ROD CLAMPS
Light Type

Cat. No.	Rod Size	Max. Wire Size Awg.	Std. Pkg.	Wt. Lbs. Std. Pkg.
9591	½	3 str.	100	13
9592	⅝	2 str.	100	25
9593	¾	2 str.	100	35

GROUND RODS

No. 8566

Ground rods are made of high carbon open-hearth steel with a long, sharp point.

No. 12 copper wires with free ends five inches long are soldered firmly to the upper end of all wired rods.

Unwired rods have a hole through their upper ends for attaching ground wires.

With Copper Wire

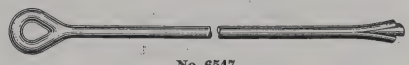
Cat. No.	Diam. Inches	Length Feet	Std. Pkg.	Wt. Lbs. Per 100
8506	½	6	10	408

Without Copper Wire

8565	½	5	10	315
8566	½	6	10	410
8578	⅝	8	5	800
8618	¾	8	5	1200

LOCKE POLE LINE HARDWARE
ROCK GUY BOLTS

No. 6546



No. 6547

No. 6546 is made of 1-inch round steel, 18 inches long with a 2-inch eye. This anchor or bolt is standard with A. T. & T. and Western Union.

No. 6547 with wedge is made of 1-inch round steel, 18 inches long with drop forged eye, 1¼ inch inside diameter.

Cat. No.	Type	Std. Pkg.	Wt. Lbs. Per 100
6546	Rock Guy Bolt	10	625
6547	Rock Guy Bolt with Wedge	10	600

STRAND EYE ANCHOR RODS

Eliminates the guy thimble. The eye is drop forged and requires no thimble.

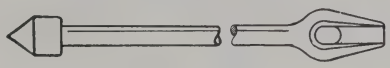
Cat. No.	Diam. In.	Length Feet	Std. Pkg.	Wt. Lbs. Per 100
5316	⅝	6	10	650
5317	⅝	7	10	750
5318	⅝	8	5	850
5326	¾	6	5	947
5328	¾	8	5	1240
5329	¾	9	5	1390
5338	1	8	2	2250

DOUBLE STRAND EYE ANCHOR RODS

These rods are used where 2 guy wires are to be used. No thimble required.

Cat. No.	Diam. In.	Length Feet	Std Pkg.	Wt. Lbs. Per 100
5357	¾	7	5	1120
5358	¾	8	5	1260
5359	¾	9	5	1410
5368	1	8	2	2280

STRAND EYE ANCHOR RODS
For Nevercreep Anchors



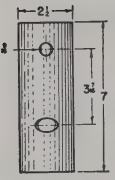
Cat. No.	Diam. In.	Length Feet	Std. Pkg.	Wt. Lbs. Per 100
3316	⅝	6	10	650
3317	⅝	7	10	750
3318	⅝	8	5	850
3326	¾	6	5	945
3328	¾	8	5	1240
3329	¾	9	5	1390
3338	1	8	2	2250

DOUBLE STRAND EYE ANCHOR RODS
For Nevercreep Anchors

Cat. No.	Rod Size, In.	No. in Bundle	Wt. Lbs. Per 100
3357	¾ x 7	5	1110
3358	¾ x 8	5	1260
3359	¾ x 9	5	1410
3368	1 x 8	2	2280

LOCKE POLE LINE HARDWARE

LIFT PLATES



No. 7887-7888

Lift plates are used under the eye of angle thimbleye bolts to distribute the strain of down guys over a greater area. The mounting holes are $\frac{9}{16}$-inch and ½-inch lag screws. Plates are curved to 4½-inch radius.

Cat. No.	Size, Inches	Bolt Size	Std. Pkg.	Wt. Lbs. Per 100
7887	7 x 2½ x $\frac{9}{16}$	⅝	100	94
7888	7 x 2½ x ¼	¾	50	127

POLE STEPS FOR WOOD POLES

No. 6125

Made of open-hearth steel and will make a possible bend of 75 degrees without breaking. All hook-head steps have a fetter-drive.

Standard Hook Head

Cat. No.	Diam. Inches	Length Inches	Std. Pkg.	Wt. Lbs. Per 100
6124	⅝	9	100	88
6125	⅝	10	100	95

POLE REINFORCING BANDS

In order to save the expense of installing a new pole in a line and to add years to the life of a pole a short section of a pole is stubbed to the base of the installed pole. This is easily accomplished by means of reinforcing bands. These bands are quickly installed, easily tightened and are strong and durable.

Reinforcing pipe, 2 inches in diameter by 5 inches long, has ¾-inch hole to accommodate a ⅝-inch machine bolt.

Reinforcing Band

Cat. No.	Size in Inches	Std. Pkg.	Wt. Lbs. Per 100
6850	12 Ga. x 2 x 68½	10	440
6851	12 Ga. x 2 x 89½	10	580

Reinforcing Pipe

6852	2 x 5	10	235

GUY WIRE PROTECTORS

Guy wire protectors are very easily installed. The hook at the lower end is placed over the anchor rod and the guard then drawn down until the strand lodges in the V-clamp. The keeper is swung into position and tightened and the job is complete.

Tubular Type

6597	7	18 Ga.	1200
6598	8	18 Ga.	1350

LOCKE POLE LINE HARDWARE

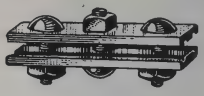
WIRE ROPE CLIPS

Furnished with U-bolts and nuts.

Cat. No.	Size Strand	Std. Pkg.	Wt. Lbs. Per 100
6480	¼	500	18
6482	⅜	200	47
6484	½	100	73
6485	⅝	100	101

GUY CLAMPS

No. 6461



No. 6449

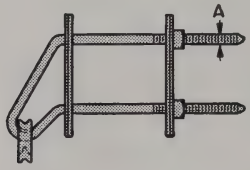
Nos. 6447 to 6450 are made from open hearth steel $1\frac{9}{16}$ inches wide by ⅝-inch thick. The heat-treated bolts are ½-inch with oval shoulders that fit into the oval holes in the clamp. These clamps are for use with ¼-inch to $\frac{7}{16}$-inch guy wire.

Nos. 6461 and 6464 are made from plates $1\frac{31}{32}$ inches wide and ⅝-inch thick with a smooth groove and equipped with ⅝-inch heat-treated steel bolts.

Cat. No.	Type	Length Inches	Std. Pkg.	Wt. Lbs. Per 100
6447	1-Bolt Med.	$1\frac{7}{16}$	100	65
6448	2-Bolt Med.	3	50	145
6449	3-Bolt Med.	4	50	176
6450	3-Bolt Med.	6	25	240
6461	3-Bolt Hvy.	6	25	284
6464	4-Bolt Hvy.	8	20	376

GUY LOOP AND SADDLE

Galvanized Steel

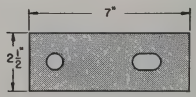


Equalizes strain when guying heavy loads. Furnished complete with back plate.

Cat. No.	Dimensions, Inches A	Dimensions, Inches Pole Diameter	Std. Pkg.	Wt. Lbs. Per 100
7762	⅝	12-14	10	576
7772	¾	12-14	10	740

BACK PLATE

Galvanized Steel

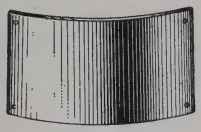


Cat. No.	Dimensions, Inches Bolt Hole	Dimensions, Inches Bolt Slot	Std. Pkg.	Wt. Lbs. Per 100
7877	¾	¾x1¼	50	127
7878	⅞	⅞x1½	50	127

For use with Guy Loop and Saddle.

LOCKE POLE LINE HARDWARE

STRAIN PLATES

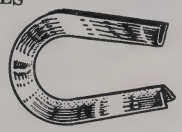


Strain plates are furnished plain or with offset to fit over 1¼-inch maximum diameter ground wire moulding. Nail holes are $\frac{7}{32}$-inch.

Cat. No.	Dimens., Inches	Std. Pkg.	Wt. Lbs. Per 100
6575	4x8x14 Ga.	100	84

GUY THIMBLES

Guy thimbles are made of half oval steel, grooved to fit size of strand and bent to a radius so the strand will not kink.



Cat. No.	Size Strand Inches	Size Guy Rod Inches	Std. Pkg.	Wt. Lbs. Per 100
6593	⅜	½ and ⅝	500	10
6594	½	⅝ and ¾	250	21
6595	⅝	1	100	44

GUY HOOKS

Guy hooks are made of half oval steel with the rounded side up which prevents any sharp edges from coming in contact with the strand.

Cat. No.	Size Steel Inches	Length Inches	Diam. Hole	Std. Pkg.	Wt. Lbs. Per 100
6584	1¾x⅝	4	$\frac{11}{16}$	100	80
6585	1½x⅜	3½	$\frac{9}{16}$	100	60

MACHINE BOLTS

Cat. No.	Dimensions, Inches: Diam. of Bolt	Length of Bolt	Length Thread	Std. Pkg.	Weight Per 100
8604½	⅜	4½	3	500	17.5
8605	⅜	5	3	250	18.9
8606	⅜	6	3	250	21
8704½	½	4½	3	200	34
8704¾	½	4¾	3	200	35.0
8705	½	5	3	200	38
8706	½	6	3	200	43
8707	½	7	3	100	45.5
8708	½	8	4	100	44.5
8806	⅝	6	3	100	67
8807	⅝	7	3	100	75
8808	⅝	8	4	100	84
8810	⅝	10	4	50	98.0
8812	⅝	12	6	50	114
8814	⅝	14	6	50	132
8816	⅝	16	6	50	143
8818	⅝	18	6	50	160
8820	⅝	20	6	50	175
8822	⅝	22	6	25	190
8824	⅝	24	6	25	205
8916	¾	16	6	50	223
8918	¾	18	6	25	244
8920	¾	20	6	25	262
8922	¾	22	6	25	290
8924	¾	24	6	25	314

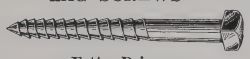
LOCKE POLE LINE HARDWARE

CARRIAGE BOLTS

Carriage bolts have a square section under the head.

Cat. No.	Dimensions, Inches: Diam. of Bolt	Length of Bolt	Length Thread	Std. Pkg.	Wt. Lbs. Per 100
8634	⅜	4	1¾	500	16.5
8634½	⅜	4½	1¾	250	18
8635	⅜	5	1¾	250	19.5
8635½	⅜	5½	1¾	250	21
8646	½	6	3	200	40.8

LAG SCREWS



Fetter Drive

Lag screws or heel bolts are made in two types, the gimlet point and fetter drive. Specify type wanted. Fetter drive is standard on ⅜, ½ and ⅝-inch, but gimlet point can be furnished on request.

Cat. No.	Dimens., In.: Diam. Screw	Length Screw	Type of Point	Std. Pkg.	Wt. Lbs. Per 100
8744	⅜	4	FD	500	12.7
8744½	⅜	4½	FD	500	13.9
8745	⅜	5	FD	500	15.3
8754	½	4	FD	250	24.8
8754½	½	4½	FD	250	27.6
8755	½	5	FD	250	29.2
8764½	⅝	4½	FD	200	42
8765	⅝	5	FD	100	47.8
8766	⅝	6	FD	100	53.8

ROUND GALVANIZED WASHERS

Cat. No.	O.S. Diam.	Diam. Hole	Size Bolt: Mach.	Size Bolt: Carr.	Std. Pkg.	Wt. Lbs. Per 100
6801	1	$\frac{7}{16}$	⅜	----	5000	1.6
6802	1¼	½	⅜	⅜	2500	2.4
6803	1⅜	$\frac{9}{16}$	½	⅜	1500	4.5
6805	1¾	$\frac{11}{16}$	⅝	½	1000	8.5

SQUARE GALVANIZED WASHERS

Cat. No.	Dimensions, Inches: Size Washer	Diam. Hole	Size Bolt	Std. Pkg.	Wt. Lbs. Per 100
6812	2 x2 x⅛	$\frac{11}{16}$	½x⅝	500	14.0
6813	2¼x2¼x$\frac{3}{16}$	$\frac{11}{16}$	½-⅝	250	26
6814	2¼x2¼x$\frac{3}{16}$	$\frac{13}{16}$	⅝-¾	250	26
6817	3 x3 x¼	$\frac{13}{16}$	⅝-¾	100	64
6818	4 x4 x$\frac{3}{16}$	$\frac{13}{16}$	⅝-¾	100	93
6820	4 x4 x½	1⅛	1	25	238

DROP FORGED OVAL EYE BOLTS

Eye bolts are drop forged from open hearth steel and have a large oval eye. All standard sizes have 6 inches of rolled thread except bolts 6 inches in length which have 4 inches.

Cat. No.	Dimensions, Inches: Length Bolt Under Eye	Diam. Bolt	Diam. Eye	Std. Pkg.	Wt. Lbs. Per 100
29956	6	⅝	1½x2	50	112
29958	8	⅝	1½x2	50	125
29960	10	⅝	1½x2	50	148
29962	12	⅝	1½x2	50	160
29964	14	⅝	1½x2	50	170
29966	16	⅝	1½x2	25	188
29980	10	¾	1½x2	25	208
29982	12	¾	1½x2	25	230
29984	14	¾	1½x2	25	268
29986	16	¾	1½x2	25	290
29988	18	¾	1½x2	25	320
29990	20	¾	1½x2	25	348
29992	22	¾	1½x2	25	376
29994	24	¾	1½x2	25	404

LOCKE POLE LINE HARDWARE

STRAND EYE BOLTS

Angle

Straight

Strand Eye bolts are made from open-hearth steel and furnished with a drop forged eye which eliminates the use of the thimble.

Angle Cat. No.	Strand Eye Wt. Lbs. per 100	Dimensions Bolt Diam.	Dimensions Length of Bolt Under Eye	Std. Pkg.	Straight Cat. No.	Strand Eye Wt. Lbs. per 100
5008	125	5/8	8	50	**5508**	130
--------	-----	5/8	9	50	**5509**	148
5010	145	5/8	10	50	**5510**	148
5012	165	5/8	12	50	**5512**	165
5014	190	5/8	14	50	**5514**	189
5016	210	5/8	16	25	**5516**	220
5018	230	5/8	18	25	**5518**	240

DOUBLE ARMING BOLTS

Cat. No.	Dimensions, Inches Diam. of Bolt	Length Overall	Length Thread	Std. Pkg.	Wt. Lbs. Per 100
8862	5/8	12	12	50	135
8864	5/8	14	14	50	148
8866	5/8	16	16	25	170
8868	5/8	18	18	25	184
8870	5/8	20	20	25	198
8872	5/8	22	22	25	214
8874	5/8	24	24	25	227
8888	3/4	18	18	25	277
8890	3/4	20	20	25	306
8892	3/4	22	22	25	320
8894	3/4	24	24	25	340

DOUBLE ARMING OVAL EYE BOLTS

Double arming bolts and double arming eye bolts are made from open hearth steel. Double arming eye bolts have three nuts and drop forged eyes and threads. They are threaded to within 1½ inches of the eye.

Cat. No.	Diam. of Bolt	Length Under Eye	Std. Pkg.	Wt. Lbs. Per 100
19784	5/8	14	25	192
19786	5/8	16	25	216
19788	5/8	18	25	226
19790	5/8	20	25	245
19792	5/8	22	25	260
19794	3/4	14	25	284
19796	3/4	16	25	308
19798	3/4	18	25	330
19800	3/4	20	25	350
19802	3/4	22	25	380

SQUARE NUTS

Tapped for Bolts Cat. No.	Bolt Size Inches	Tapped for Rods Cat. No.	Rod Size Inches	Wt. Lbs. Per 100
91973-5	1/2	**92101-20**	1/2	10.7
91973-7	5/8	**92101-21**	5/8	16.0
91973-8	3/4	**92101-22**	3/4	32.0

LOCKE POLE LINE HARDWARE

DROP FORGED BOLT EYES

No. 6514

Forged from round open hearth steel and may be used on either end of a machine bolt. These bolt eyes may also be applied to the same uses found for eye nuts.

Cat. No.	Bolt Diam.	Eye Width	Eye Length	Overall Length	Std. Pkg.	Wt. Lbs. Std. Pkg.
			Standard Eye			
6514	5/8	1 1/8	1 3/4	2 5/8	100	75
			Extra Long Eye			
6515	5/8	1 3/8	3 3/32	4 1/2	50	110
			Long Eye			
6517	5/8	1 5/16	2 13/32	3 1/2	100	91
			Strand Eye			
6519	5/8	1 5/16	2 1/2	4 3/8	50	110

DROP FORGED EYE NUTS

No. 6510

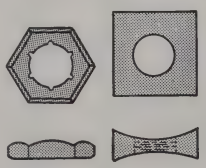
No. 6500

These drop forged eye nuts are forged from round open hearth steel and threaded to screw on standard ½, ⅝ or ¾-inch bolts. These nuts may be used on the threaded end of machine bolts passed vertically through the cross arm for attaching suspension type insulators. They may also be used for dead ending lines by adding an eye to either end of a double arming bolt or by adding second eye to eye bolt permitting the attachment of a back guy to the same bolt that support the strain insulator to the dead ending wire, thus removing the strain from the cross arm without the trouble and expense of an additional eye bolt.

Cat. No.	Diam. Bolt	Size Eye Width	Size Eye Length	Std. Pkg.	Wt. Lbs. Per 100
			Thimbleye Eye Nuts		
6510	5/8	7/8	1 1/2	50	86
6511	3/4	7/8	1 1/2	50	84
6512	1	7/8	1 1/2	50	165
			Ovaleye Standard Type		
6500	1/2	1 1/8	1 1/8	100	60
6501	5/8	1 1/8	1 1/8	100	60
			Ovaleye N.E.L.A. Standard		
6502	5/8	1 1/2	1 11/16	100	65
6503	3/4	1 1/2	1 11/16	100	64

LOCKNUTS

Galvanized Finish



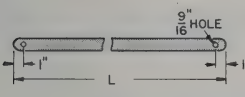
3530 3510

The Palnut is a single-thread locknut. Spring steel jaws close in to hold tight to undersize or worn bolts.

Palnuts Cat. No.	Bolt Size Inch	Wt. Lbs. Per 100	Type MF Cat. No.	Bolt Size Inch	Wt. Lbs. Per 100
3530	3/8	.39	**3510**	3/8	1.1
3531	1/2	.72	**3511**	1/2	2.4
3532	5/8	1.20	**3512**	5/8	4.2
3533	3/4	1.50	**3513**	3/4	6.4

LOCKE POLE LINE HARDWARE

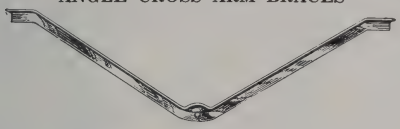
FLAT CROSS ARM BRACES



Flat cross arm braces are made from new open hearth steel and have a 9/16-inch hole at one end with 7/16-inch hole at the other.

Cat. No.	Dimensions, Inches: Width of Steel	Thick. of Steel	Length of Brace	Std. Pkg.	Wt. Lbs. Per 100
7024	1 7/32	7/32	24	20	162
7026	1 7/32	7/32	26	20	175
7028	1 7/32	7/32	28	20	183
7030	1 7/32	7/32	30	20	196
7126	1¼	¼	26	20	215
7128	1¼	¼	28	20	232
7130	1¼	¼	30	20	248
7132	1¼	¼	32	20	264

ANGLE CROSS ARM BRACES

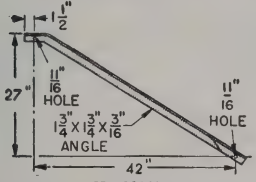


Angle cross arm braces are made from open hearth steel in the following sizes.

Cat. No.	Dimensions, Inches: Size Steel	Between Holes	Drop	Std. Pkg.	Wt. Lbs. Std. Pkg.
6940	1½x1½x3/16	42	12	5	765
6941	1½x1½x3/16	48	18	5	960
6942	1½x1½x3/16	60	18	5	1103
6955	1¾x1¾x3/16	72	18	5	1450

ALLEY ARM BRACES

No. 6981

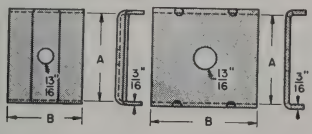


No. 92061

All alley arm braces are furnished one end bent unless otherwise specified. 9/16-inch holes.

Cat. No.	Length Feet	Size Angle Inches	Std. Pkg.	Wt. Lbs. Per 100
6981	5	1½x1½x3/16	5	1050
6984	7	1¾x1¾x3/16	2	1788
92061	....	1¾x1¾x3/16	..	700

CROSS ARM REINFORCING PLATE
Galvanized Steel

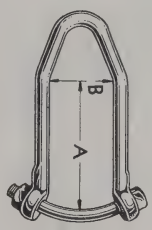


Locke Crossarm Reinforcing Plates help prevent crossarm splitting. Assure good metallic contact between arm and bolt. Other sizes available upon request.

Cat. No.	Dimens., In.: A	B	Wt. Lbs. Per 100
4047	8	3⅞	178
4064	4	4	121

LOCKE POLE LINE HARDWARE

STRAIN INSULATOR CLEVISES



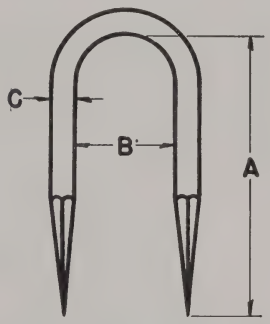
Light type is drop forged from 7/16-inch round open hearth steel equipped with ⅜-inch curved bolt.

The heavy type is made from ½-inch round steel with ½-inch bolt. These clevises are made in sizes for all standard makes of strain insulator.

Standard package, 100.

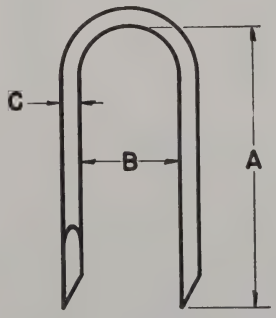
Cat. No.	Type	Dimens., In.: A	B	Wt. Lbs. Per 100	For Insulator No.
705	Light	3	2	78	502
707	Heavy	3	2¼	82	504
731½		4½	2½	135	506, 7666

ROLLED POINT STAPLES



Cat. No.	Dimensions, Inches: A	B	C	Wt. Lbs. Per 100
		Copperweld		
6493	1¼	¼	.114	5⅛
6522	3	1	¼	7.8
		Steel, Galvanized After Rolling		
7512	2	½	.162	2¼

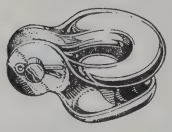
CUT POINT STAPLES



Cat. No.	Dimensions, Inches: A	B	C	Wt. Lbs. Per 100
		Copperweld		
6650	2	½	.162	2¼
6652	1½	⅜	.162	1⅞
		Steel, Galvanized After Cutting		
7511¾	1½	¼	.114	1.4
7522	3	1 1/16	5/16	8.3

LOCKE POLE LINE HARDWARE

THIMBLE CLEVIS

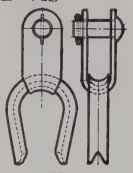


Thimble clevises have a well rounded surface that will not injure the insulation of the wires.

Cat. No.	Size of Steel	Dia. Cotter Bolt	Max. Size Cable Inches	Std. Pkg.	Wt. Lbs. Per 100
564	11 Ga.	½	1	100	94
565	9 Ga.	⅝	1	100	96

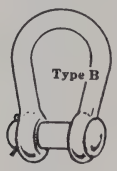
DEAD END THIMBLE CLEVIS

No. 573 is made of galvanized steel and weighs 95 lbs. per 100.



No. 573

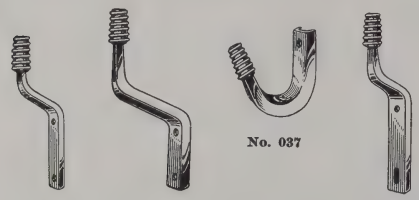
DROP FORGED CLEVISES



Type B

Cat. No.	Size Steel	Length Inches	Width Inches	Diam. Bolt	Std. Pkg.	Wt. Lbs. Per 100
5801	½	2 5/32	¾	⅝	100	90

POLE AND FEEDER BRACKETS



No. 044 No. 052 No. 037 No. 072

No. 044 is used for light telephone circuits on transmission poles. It is attached by two ⅜-inch lag screws.

For heavier work such as electric railway feeders and for work where greater extension from pole is desired No. 052 is recommended.

Pole bracket No. 037 is recommended for supporting single wires such as light railway feeders, series arc circuits and for telephone and signal work.

No. 072 arm bracket is for heavy work and is attached to the cross arm by means of a cross arm strap. It gives a clearance of about 6 inches above the arm and has standard 1-inch lead thread.

Cat. No.	Dimensions, Inches: Size of Steel	Extension	Size Holes	Std. Pkg.	Wt. Lbs. Per 100
044	1x½x⅛	2½	7/16	50	116
052	2½x⅛x9 Ga.	5	11/16	25	229
037	12 Ga.	4½	7/16	....	110
072	2 1/16x1¼x9 Ga.	2½	11/16	25	230

LOCKE POLE LINE HARDWARE

DROP FORGED TURNBUCKLES

No. 7642

No. 7602

Turnbuckles are drop forged except the clevis bolts, thereby insuring reliability and strength. The clevis bolts are made by forging the U-shaped clevis to the bolt in such a way as to develop the full strength of the bolt. ⅜-inch bolts are used in the ½-inch clevises, ½-inch bolt in the ⅝-inch and ⅝-inch in the ¾-inch clevises.

Table of Dimensions in Inches

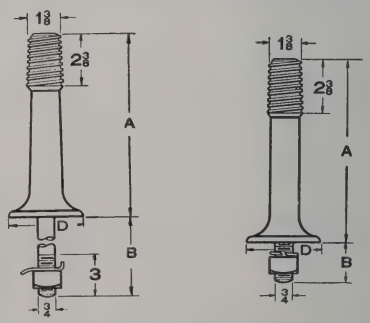
Size Inches	Eye and Eye: Cat. No.	Eye and Eye: Wt. Lbs. Per 100	Eye and Clevis: Cat. No.	Eye and Clevis: Wt. Lbs. Per 100
⅜x 6	**7061†**	94	----------	------
½x 6	**7602†**	162	**7642†**	174
½x 9	**7603†**	204	**7643†**	216
½x12	**7604†**	246	**7644†**	264
⅝x 6	**7605†**	275	**7645†**	295
⅝x 9	**7606†**	306	**7646†**	326
⅝x12	**7607‡**	337	**7647‡**	357
¾x 6	**7608‡**	390	**7648‡**	417
¾x 9	**7609‡**	512	**7649‡**	541
¾x12	**7610‡**	575	**7650‡**	575

Standard Packing: †Bundle 10; ‡Bundle 5.

FORGED STEEL PINS

Tapered Body

For Wood Arms **For Steel Arms**



FOR WOOD ARMS

With 1-Inch Lead Thread

Cat. No.	Dimensions, Inches: A	B	D	Std. Pkg.	Wt. Lbs. 100 Pcs.
4708	5	5½	2½	25	278
4712	6	5½	2½	25	293
With 1⅜-Inch Lead Thread					
4726	7	7	3	20	485
4728	8	7	3	10	550
4730	9	7	3½	10	668

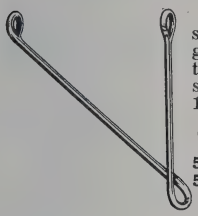
FOR STEEL ARMS

With 1-Inch Lead Thread

Cat. No.	Dimensions, Inches: A	B	D	Std. Pkg.	Wt. Lbs. 100 Pcs.
4703	4	1¾	2½	50	190

LOCKE POLE LINE HARDWARE

CORNER CONSTRUCTION BRACKETS



Used on lines equipped with suspension type insulators to give the desired clearance to the line on small angles. Eye spacing, 12 inches. Extension, 12 inches.

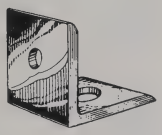
Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Per 100
5727	5/8	10	353
5728	3/4	10	490

3/4-INCH J BOLTS FOR CORNER BRACKETS

Cat. No.	Length Inches	Depth of Cross Arm	Std. Pkg.	Wt. Lbs. Per 100
5734	6 3/4	4	100	125
5734 1/2	7 1/4	4 1/2	100	141
5735	7 3/4	5	50	147
5736	8 3/4	6	50	160

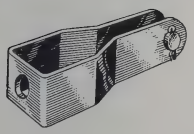
DEAD END ANGLE

The dead end angle is used for attaching either heavy or light type clevises to buildings or cross arms. Made from 3x 3x 5/16-inch angle.



Cat. No.	Size Steel	Mounting Hole	Attach. Hole	Std. Pkg.	Wt. Lbs. Per 100
520	3x3x 5/16	11/16	1 1/4	50	113

DEAD ENDING CLEVIS



Forged from flat steel 5/16x1 1/4 inch and fits both 1/2-inch and 5/8-inch bolts. It is also provided with clevis bolt and brass cotter pin.

Cat. No.	Length to Center of Bolt, In.	Std. Pkg.	Wt. Lbs. Per 100
455	3 1/2	50	94

DOUBLE ARMING PLATES

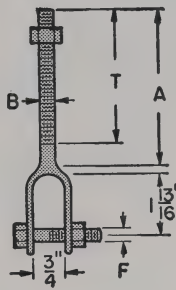
Galvanized Steel

No. 5844

Locke Double Arming Plates are used extensively on transmission double-arm construction for rigidity between arms and for the support of the suspension insulator fitting. The end holes are generally used for clevis fittings to dead end suspension insulators and the center hole for pin with Pin Type Insulator for supporting jumper. Also may be used for double arming with Pin Type Insulators.

Cat. No.	Length	Pin Holes	Slots	Wt. Lbs. Per 100
5844	24	13/16	13/16x3	1360
5850	30	13/16	13/16x3	1630
92396	17	11/16	11/16x3	530

LOCKE POLE LINE HARDWARE



CLEVIS BOLTS

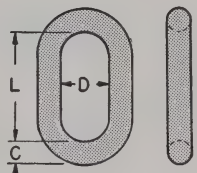
Galvanized Forged Steel

Cat. No.	Dimens., Inches A	B	F	T	Wt. Lbs. Per 100
5805	5	5/8	1/2	4 1/2	150
5809	9	5/8	1/2	6	190
5814	14	5/8	5/8	6	235
5825	5	3/4	5/8	4 1/2	179
5829	9	3/4	5/8	6	224
5834	14	----	5/8	6	275

LINK

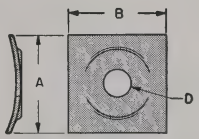
Galvanized Forged Steel

Often used with suspension hardware clamps and fittings to allow full adjustment of dead end to the line.



Cat. No.	Inches C	D	L	Wt. Lbs. Per 100
5783	1/2	7/8	2 3/8	43

SADDLE WASHERS



PRESSED STEEL TYPE

Saddle washers are used with crossarm pins or roofed arms. No. 4206 is generally used with 881-884 low voltage pins; No. 4207 with 890A, and any width roofed arm. No. 4210 for the 4300 and 4700 series high voltage pin and roofed arms except for pins 11 inches or more above arm.

Cat. No.	Dimensions, Inches A	B	D	Wt. Lbs. Per 100
4206	3 1/2	2 1/2	11/16	32
4207	2 1/2	2 1/2	13/16	32
4210	3 1/2	3 1/2	13/16	80

CURVED WASHERS

Galvanized Steel

Used to tie together 2 poles by placing wire strand around them, then drawing the center in with a thru bolt with a stubbing washer at each end.

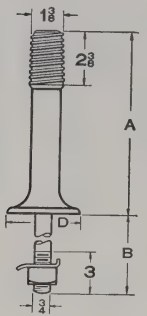
Packed in boxes of 100 washers each.

Cat. No.	Diam. Bolt Inches	Size Inches	Bolt Hole Inches	Wt. Lbs. Per 100
6822	5/8	2 1/2 x 2 1/2 x 3/16	11/16	31
6823	3/4	3 x 3 x 1/4	13/16	60
6824	1	3 x 3 x 5/16	1 1/8	94
6825	5/8	3 1/4 x 3 1/4 x 1/4	3/4	80

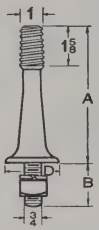
LOCKE POLE LINE HARDWARE

FORGED STEEL PINS—STRAIGHT BODY

For Wood Arms



For Steel Arms



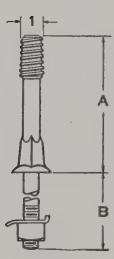
LONG SHANK PINS FOR WOOD ARMS
With 1 3/8-Inch Lead Thread

Cat. No.	Dimensions in Inches A	B	D	Std. Pkg.	Wt. Lbs. Per 100
4328	8	7	3	20	476
4332	10	7	3½	10	640

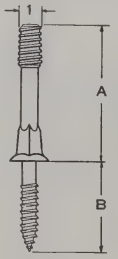
SHORT SHANK FOR STEEL ARMS
With 1-Inch Lead Thread

Cat. No.	Dimensions in Inches A	B	D	Std. Pkg.	Wt. Lbs. Per 100
4311	6	1¾	2½	25	195
	With 1 3/8-Inch Lead Thread				
4329	9	1¾	3½	10	460

PINS FOR LOW VOLTAGE INSULATORS



No. 881



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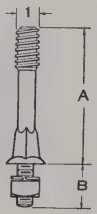


No. 886

LONG SHANK PINS FOR WOOD ARMS
With 1-Inch Lead Thread

Cat. No.	Diam. In.	Length, Inches A	B	Over-all	Std. Pkg.	Wt. Lbs. Per 100
874	½	4¾	5½	10¼	50	141
881	⅝	5	5½	10½	50	185
881A	⅝	5	6½	11½	50	205
884	⅝	6	5½	11½	50	210
890A	¾	4¾	5¾	10½	25	265

SHORT SHANK FOR STEEL ARMS
With 1-Inch Lead Thread

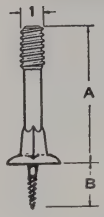
Cat. No.	Diam. In.	Length, Inches A	B	Over-all	Std. Pkg.	Wt. Lbs. Per 100
886	⅝	4¾	1¼	6	50	142
887	⅝	6	1¼	7¼	50	153

LAG SCREW TYPE
For Pole and Transformer Wiring

Cat. No.	Diam. In.	Length, Inches A	B	Over-all	Std. Pkg.	Wt. Lbs. Per 100
873	½	4¾	3	7¾	50	103
888	⅝	4¾	3	7¾	50	124

LOCKE POLE LINE HARDWARE

WOOD SCREW TYPE



Wood screw type pins are used for running transformer leads, lamp leads or similar services where wires are not subject to line strains.

Std. pkg. 100. Weight 99 lbs.

Cat. No.	Dimensions, Inches Size Screw	A	B	Over-all
026	22x2"	5	2	7

WOOD TOP PINS WITH STEEL BOLTS

Wood top pins composed of seasoned locust tops, thoroughly impregnated with paraffin to exclude moisture, and stiff steel fin bolts complete with nut and washer.

Standard package is 100.

7070

For 1-Inch Insulator Pin Hole

Cat. No.	Size, Wood Top Diam. Top In.	Diam. Bottom In.	Lgth. In.	Size of Bolt Diam. In.	Lgth. In.	Lgth. Below Top	Approx. Wt. Lbs. Per 100
7070	1	1⅞	4½	½	5½	1	55
7074	1	1⅞	4½	½	9½	5	85

WOOD COB PINS

No. 7000

No. 7010

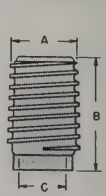
Made in accordance with W.U. specifications. Cobs are of best grade dried oak boiled in paraffin to exclude moisture. Furnished with square nuts and clipped washers.

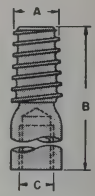
Long Shank Pins

Cat. No.	Diam. In.	Length, In. Above Shoulder	Below Shoulder	Std. Pkg.	Wt. Lbs. Per 100
7000	½	4¼	5	100	74
	Short Shank Pins				
7010	½	4	1	100	49

ADAPTERS AND THIMBLES

Locke Adapters and Thimbles are used to adapt a bolt or pin to a specific insulator pin hole size. Other sizes and types available upon request.





Zinc Thimble Wth Lead Thread

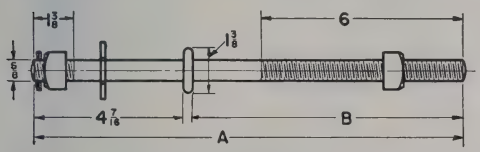
Cat. No.	Dimens., In. A	B	C	Wt. Lbs. Per 100
4025	1⅜	2½	1 3/4	77
	Cast Steel With Lead Thread			
4058	1	5¼	⅝	150

LOCKE POLE LINE HARDWARE

SPOOL BOLTS

Low-voltage lines insulated with spools supported on Spool Bolts have become increasingly popular.

This type of construction is quick, economical and extremely satisfactory from an operating standpoint.

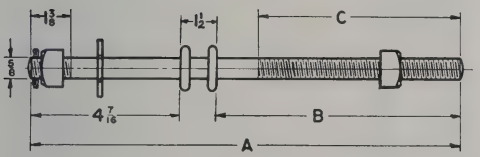


No. 7741

The 7700 series Spool Bolts are made with a single flange forged as part of the ⅝-inch bolt. One No. 6805 washer is furnished with each bolt.

Cat. No.	Dimen., Inches A	B	Std. Pkg.	Wt. Lbs. Per 100
7739	10¾	6	50	128
7740	11¾	7	50	136
7741	12¾	8	50	145
7741½	13¾	9	50	156
7742	14¾	10	50	162

SPOOL BOLTS



No. 7826

The 7800 series Spool Bolts are of the double flange or shoulder type and are standard with one No. 6805 washer.

Cat. No.	Dimensions in Inches A	B	C	Std. Pkg.	Wt. Lbs. Per 100
7826	14	8	4½	50	167
7828	15	9	5½	50	171
7830	16	10	5½	50	177

POLE BANDS

Used for attaching secondary racks to tubular poles. These bands are made from 1½x¼-inch flat steel and in 2 types, single and double. Both types are furnished with ⅝x2-inch carriage bolt for attaching rack.

No. 6364

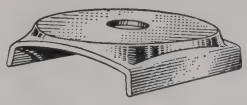
No. 6374

Single Type

Cat. No.	Nominal Diam. Pole	O.S. Diam. Pole	Std. Pkg.	Wt. Lbs. Per 100
6364	4	4.50	25	307
	Double Type			
6374	4	4.50	20	366

LOCKE POLE LINE HARDWARE

CROSSARM SADDLES

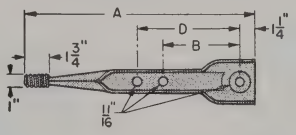


The crossarm saddle is used with pins on roofed arms.

Cat. No.	Cross Arm Width, In.	Pin Hole Diam. In.	Std. Pkg.	Wt. Lbs. Per 100
4003	3¾	13/16	50	96
4004	4	13/16	50	103
4005	5	13/16	50	115

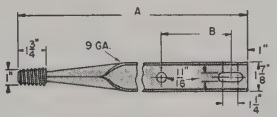
POLE-TOP PINS

Galvanized Steel



Cat. No.	Dimen., In. A	B	D	Std. Pkg.	Wt. Lbs. Per 100
2182	18	5	8	25	330

PRESSED STEEL POLE TOP PINS



Cat. No.	Dimens., In. A	B	Std. Pkg.	Wt. Lbs. Per 100
2162	15	5	25	290

SOLID STEEL POLE TOP PINS

With 1⅜-Inch Lead Thread

These pins are made of solid bars of special alloy steel either 1 inch or 1⅛ inches in diameter and furnished with lead threads.

Cat. No.	Length Inches	Diam. Pin	Std. Pkg.	Wt. Lbs. Per 100
2120	20	1	5	600
2125	24	1⅛	5	715

EYE BOLTS AND BRACKETS

For Use with Pole Top Pin

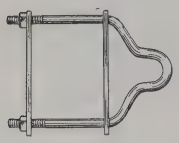
No. 2149

Eye bolt is drop forged from open hearth steel and has curved shoulder to fit the pole.

Cat. No.	Dimensions, Inches Length Under Eye	Diam. Bolt	Use with Pin Diam.	Std. Pkg.	Wt. Lbs. Per 100
2149	10	⅝	1	50	150
2150	10	⅝	1⅛	50	150

LOCKE POLE LINE HARDWARE

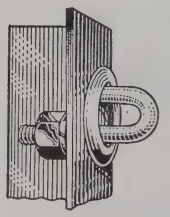
CROSS ARM CLEVISES



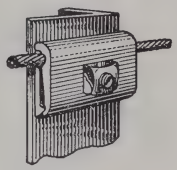
These cross arm clevises are made of ½-inch round steel with plates 1⅞-inch wide on each side. This clevis clamps around the arm instead of bolting through it thereby making it safer and more economical.

Cat. No.	Size of Cross Arm	Std. Pkg.	Wt. Lbs. Per 100
449	3¼x4¼	25	160
450	3½x4½	25	160
451	3¾x4¾	25	160
452	4 x5	25	160

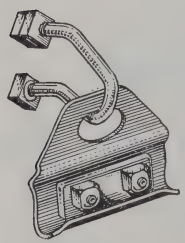
GROUND WIRE CLAMPS



J Type No. 5450



Rigid No. 5455



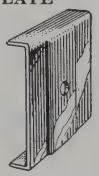
Flexible No. 5460

These clamps are made from open hearth steel. They have well rounded surfaces and take any size wire from No. 8 solid to ⅞-inch strand. The J type clamp is largely used for bayonets and U type is used for clamping overhead ground wires to steel towers.

The rolled steel ground wire clamps are made in 2 styles, rigid and flexible. Flexible type of clamp allows the clamp to swing with ground wire. This clamp has a long clamping surface as well as flared grooves which prevent the cutting of strand and at the same time furnish a smooth clamping surface. Clamp section is 3½ inches long, has two ½x1⅝-inch bolts. The U-bolt is ⅝-inch diameter, will fit bayonets with hole spacings of 1⅞-inch.

Cat. No.	Type of Clamp	Bayonet Hole Spacing Inches	Std. Pkg.	Wt. Lbs. Per 100
5450	J	13/16	100	44
5451	U	1½	100	70
5455	Rigid	------	50	120
5460	Flexible	1⅞	25	172

CROSS ARM REINFORCING PLATE

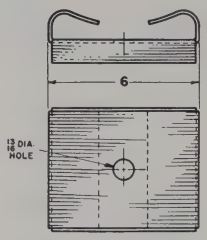


Formed from flat open hearth steel 3/16-inch thick and has a rib pressed vertically on the plate to give it greater strength. The plate clamps over the side of the cross arm and binds it top and bottom to prevent the arm from checking and splitting at the point of attachment to the pole as such may be the case when square washer is used.

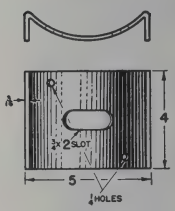
Cat. No.	Size of Cross Arm	Diam. Hole	Std. Pkg.	Wt. Lbs. Per 100
4042	3¼x4¼	13/16	50	117
4043	3½x4½	13/16	50	119
4044	3¾x4¾	13/16	50	121
4045	4 x5	13/16	50	128
4047	6 x8	13/16	50	178

LOCKE POLE LINE HARDWARE

POLE GAINS



4091



4099

Pole gains permit attaching crossarms to poles quickly and easily without the necessity of gaining the poles. Nos. 4091 to 4094 are formed from 9 gauge steel. No. 4094 is 3/16-inch steel.

Cat. No.	Size of Arms Inches	Wt. Lbs. Per 100	Cat. No.	Size of Arms Inches	Wt. Lbs. Per 100
4091	3¼x4¼	285	**4094**	4x5	285
4092	3½x4½	285	**4099**	Any size	140
4093	3¾x4¾	285	--------	----------	------

GROUND WIRE BAYONETS

Bayonets are used for supporting the overhead ground wire on wood or steel poles, all bayonets have two 11/16-inch holes for ⅝-inch thru bolts. The upper ends have two ⅞-inch holes which allows the use of wire clamps.

Corner bayonets are for use at all points at which double arms are required and consist of 2 angles, one bent, the other straight, fastened together by two ½-inch machine bolts.

5536 5436

Straight Bayonets

Cat. No.	Length Inches	Size Angle Inches	Std. Pkg.	Wt. Lbs. Per 100
5436	36	2 x2 x¼	5	957
5448	48	2½x2½x¼	5	1640
5466	66	2½x2½x¼	5	2255
5484	84	3 x3 x¼	5	3430

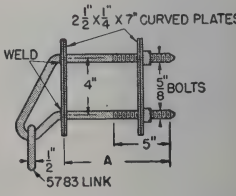
Corner Bayonets

Cat. No.	Length Inches	Size Angle Inches	Std. Pkg.	Wt. Lbs. Per 100
5536	36	2 x2 x3/16	5	1460
5548	48	2 x2 x3/16	5	1952
5566	66	2 x2 x¼	5	3509
5584	84	2½x2½x¼	5	5740

OVERHEAD GROUND WIRE SUPPORTS

Galvanized Steel

Locke 5431 and 5434 Overhead Ground Wire Support is furnished complete with link for attaching static wire clamp. Other types of overhead ground wire brackets and suspension clamps for supporting wire are available.



Cat. No.	Pole Diam. In.	(A) In.	Wt. Lbs. Per 100	Cat. No.	Pole Diam. In.	(A) In.	Wt. Lbs. Per 100
5431	6-8	9¾	535	**5433**	10-12	13¾	605
5432	8-10	11¾	570	**5434**	12-14	15¾	640

LOCKE POLE LINE HARDWARE

HEAVY U-THRU TYPE SECONDARY RACKS

The strongest and most economical rack made. Rapidly becoming first choice with all operators. Use with No. 255 or 355 spool insulators.

Line Wires	Wire Spg.	Extended Back Cat. No.	Overall Length
2	8	**0278**	17¼
3	8	**0378**	25¼
3	12	**0382**	33¼
4	8	**0478**	33¼

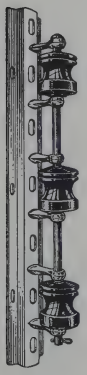
Packed 5 per bundle.

LIGHT U-THRU TYPE SECONDARY RACKS

Use with No. 0606 or 0608 spool insulators.

Line Wires	Wire Spg.	Extended Back Cat. No.	Overall Length
2	6	**0276**	13¼
2	8	**1768**	16¼
3	6	**0376**	19¼
3	8	**2768**	24¼
4	6	**0476**	25¼

Packed 5 per bundle.



HEAVY TYPE SECONDARY RACKS

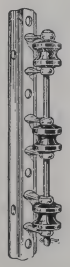
Use with No. 255 or 355 spool insulators.

Cat. No.	Line Wires	Wire Spg.	Extended Back Type Overall Length	Wt. Lbs. Per 100
1848	2	8	16½	540
2848	3	8	24½	820
3848	4	8	32½	1085

Packed 5 per bundle.

LIGHT TYPE SECONDARY RACKS

Made of 1-piece back, with drop-forged points electrically welded to the back. Use with No. 0606 or 0608 spool insulators.



Cat. No.	Line Wires	Wire Spg.	Overall Length	Wt. Lbs. Per 100
1746	2	6	13	340
2746	3	6	19	490
2748	3	8	23	570

LOCKE POLE LINE HARDWARE

RURAL TYPE SECONDARY RACKS

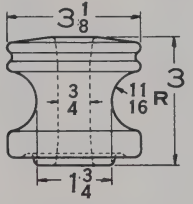
Designed for light, low cost lines. The points are formed into a U shape with slight radius from 1½x$\frac{3}{16}$-inch steel, and are securely riveted to the back. The back, slightly curved to fit the pole, is made from 2x$\frac{3}{16}$-inch steel.

Furnished with non-extended back except Nos. 1438A and 1448A which are extended back style. Use with No. 255 or 355 spool insulator.

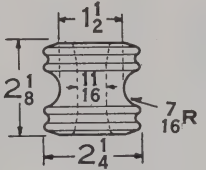
Cat. No.	Line Wires	Wire Spg.	Overall Length	Wt. Lbs. Per 100
1428	2	8	12	440
1438	3	8	20	680
1438A	3	8	25¼	700
1448	4	8	28	920

Packed 5 per bundle.

INSULATORS FOR SECONDARY RACKS



No. 255 and 355



No. 0608

Secondary Racks normally are used with dry process insulators — Number 255 for standard racks and Number 0606 for light racks.

Equivalent wet process insulators can be furnished when specified. These are made from porcelain, compression glazed for maximum life and strength and are particularly recommended where most satisfactory operating conditions are required.

Any color of glaze can be supplied, white and brown being the most generally used.

Cat. No.	Type	Std. Pkg.	Wt. Lbs. Per 100
255	Dry Process	48	125
0606	Dry Process	100	46
355	Wet Process	48	130
0608	Wet Process	100	58

ALL-PORCELAIN WIREHOLDERS

No. 0611-44

These wireholders are of the all-porcelain screw-type so designed that the wires cannot fall even though the insulator is broken. These holders are preferred by many construction men because of the absence of metal contact with the building.

Cat. No.	Type Screw	Screw-Type Size Screw	Size Wire Holes, In.	Std. Pkg.	Approx. Wt. Lbs. Per 100
0611-44	Galv.	22 x 2¼	1	50	65

LOCKE POLE LINE HARDWARE

ALL-PORCELAIN WIREHOLDERS

With Separable Base

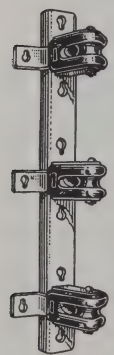
Made of No. 12 gauge steel — designed to give a strong, rugged unit — and to save insulator breakage. Furnished complete with 0664 insulators. Can be changed to 3 point type instantly. Easily installed.

The features of the All-Porcelain Separable Base Wireholder permit the insulators to be placed in position after the base is mounted, thus preventing insulator breakage. It also may be changed from a 2-wire service to a 3-wire service without disturbing wires or demounting.

Base is pressed into channel shape 2 inches wide with ½-inch flanges, and has ⅜-inch tap holes for mounting insulators. A cork washer is supplied with each insulator and may be compressed to a degree that will permit at least one-half turn of the insulator so that insulator may be mounted in any direction.

Cat. No.	No. of Wires	Wire Spacings	Size Wire Holes, In.	Std. Pkg.	Approx. Wt. Lbs. Per 100
3296	2	6	9/16 x ¾	50	210
3299	2	9	9/16 x ¾	50	240
3394	3	4½	9/16 x ¾	50	275
3396	3	6	9/16 x ¾	50	330
0664	Insulator with ⅜-in. Bolt			50	65

WIREHOLDERS



No. 294

No. 090

Wireholders Nos. 090 to 296 have been especially designed so that the porcelain is at all times in compression, thereby greatly increasing its resistance to breakage.

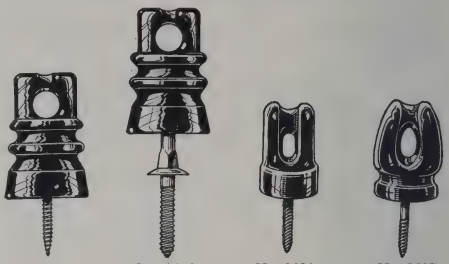
The insulator is held in place by means of a copper tube which affords an added protection in that even if the insulator is broken the service wires are held in place and cannot fall and become a hazard to pedestrians.

These wireholders are made as single points and also in various spacing as listed below.

Cat. No.	No. of Wires	Wire Spacings	Size Wire Holes, In.	Std. Pkg.	Approx. Wt. Lbs. Per 100
090	1	0	9/16 x ¾	50	95
196	2	6	9/16 x ¾	25	250
199	2	9	9/16 x ¾	25	272
294	3	4½	9/16 x ¾	20	344
296	3	6	9/16 x ¾	20	364

LOCKE POLE LINE HARDWARE

ALL-PORCELAIN WIREHOLDERS



No. 0650 No. 0660 No. 0621 No. 0607

These all-porcelain wireholders for use on secondary voltages are sturdy dry process porcelain insulators equipped with various types of screws and bolts so that a style exists for every purpose.

Wireholders Nos. 0650 and 0660 are used to support primary or street lighting circuits and in this case are made with wet process porcelain insulators.

For Secondary Voltages

Cat. No.	Equipped with	Size of Screw or Bolt	Size of Wire Hole Inches	Std. Pkg.	Approx. Wt. Lbs. Per 100
0607	Galv. Screw	22x2	¾ x ⅞	50	95
0617	Brass Screw	22x2	¾ x ⅞	50	95
0621	Galv. Screw	20x2	9/16 x ¾	50	65

For Primary Voltages

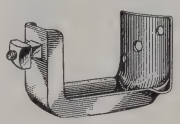
Cat. No.	Size of Screw	Size of Wire Hole	Extension of Wire	Std. Pkg.	Wt. Lbs. Per 100
0650	22x2 Brass	1	3½	25	215
0660	½x3 Lag	1	5½	25	230

DEAD ENDING STRAPS

Used to dead end a line so the extensions may be made later. Has 9/16-inch hole for attaching to pole with ½-inch lag screw.

Cat. No.	Type	Size Steel Inches	Std. Pkg.	Wt. Lbs. Per 100
899	Light	14 Ga. x 1¼	100	40
0000	Heavy	¼ x 1¼	50	125

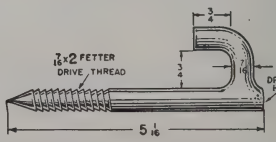
EXTENSION BRACKETS



Made from No. 9 gauge steel; 6 inches long; have 4-inch bearing on pole or wall. Brackets for pole work have a curved back, for wall work a flat back.

Cat. No.	Type	Size Steel Inches	Std. Pkg.	Wt. Lbs. Per 100
2355	Curved	9 Ga.	25	235
2356	Flat	9 Ga.	25	235

DRIVE HOOK



No. 0316 Drive Hook. Weight 28 pounds per 100. Std. pkg. 200.

LOCKE POLE LINE HARDWARE

PRUSSIAN HOOK BRACKETS

No. 212

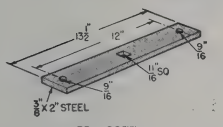
No. 214

Forged from ½-inch and ⅝-inch open hearth steel. Hook brackets have several uses such as running secondaries on poles, also making service attachments on buildings.

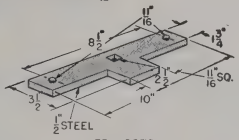
Cat. No.	Extension	Size Steel	Length Thread	Std. Pkg.	Wt. Lbs. Per 100
212	2 9/16	⅝*	2¾	50	155
213	2 8/16	⅝*	3	50	150
214	2¼	⅝†	2½	50	175
215	2⅝	½†	2½	50	125
216	2¾	½*	2½	50	115

*Round steel. †Square steel.

TANDEM BRACKETS



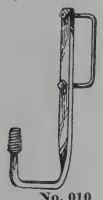
No. 8277



No. 8278

No. **8277** Tandem Type B is used on straight lines and small angles for transposing two wires on the same bracket, using No. 7010 pins and transposition insulators. The bracket is mounted on top of the arm with a ⅝x6-inch carriage bolt. Weight per 100, 290 lbs.

No. **8278** Tandem Type C is for the same method of transposing larger angles. The offset is mounted towards the inside of the angle as a reinforcement against the pull. Weight per 100, 315 lbs.



No. 010

TRANSPOSITION BRACKETS

No. 010 is made from 1-inch channel steel and threaded for insulators having standard 1-inch pin hole; furnished with U bolts for 3¼x4¼-inch cross arms unless otherwise specified. They can be furnished equipped with U bolts for any size arm up to 4x5 inches.

Cat. No.	Size Steel Inches	Diam. U Bolt	Std. Pkg.	Wt. Lbs. Per 100
010	¾x⅜x⅛	⅜	50	104
011	1x½x⅛	⅝	25	170

SINGLE POINT TRANSPOSITION BRACKET

Made of 1-inch round steel. This under-arm bracket does not require a U bolt. It screws to the thread of ½-inch Western Union pin and is held in place by the thread of the pin.

Cat. No.	Size Steel Inches	Diam. Tap	Std. Pkg.	Wt. Lbs. Per 100
021	1 Round	½	50	165

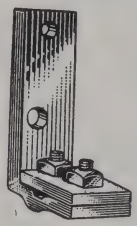
NON-BREAKABLE MESSENGER HANGERS

Nos. 7915 and 7914 are made from malleable iron and are non-breakable.

Cat. No.	Size Messenger Cable, Inches	Wt. Lbs. Per 100
7914	7/16 and Smaller	155
7915	⅜ and Larger	165

LOCKE POLE LINE HARDWARE

UNIVERSAL MESSENGER HANGERS



Universal messenger hangers are forged from open hearth steel with a curved groove which allows them to be used at corners as well as on straight runs. Length of legs, 5x3¼ inches.

Cat. No.	Size Steel	Size Cable	Std. Pkg.	Wt. Lbs. Per 100
7911	2 x½	7/16x½	20	322
7912	1¾x⅜	7/16x⅜	25	238

TRANSPOSITION BRACKETS

No. 8275

No. 8250
8252

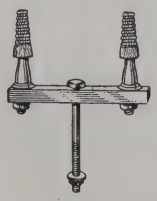
There are 3 kinds of transposition brackets as shown. No. 8250 is the Western Union standard. No. 8251 is the A. T. & T. standard for one wire and No. 8252 for 2 wires. No. 8275 is the A. T. & T. and Western Union standard for 3 wire transpositions. All pin holes are ½-inch.

Standard Transposition Brackets

Cat. No.	Steel	Crossarm	No. of Wires	Std. Pkg.	Wt. Lbs. Per 100
8250	1¼x 5/16	3 x4¼	1	25	285
8251	1¼x 5/16	3¼x4¼	1	25	285
8252	1½x⅜	3¼x4¼	2	20	415

Transposition Bracket for Phantom Circuits

8275	1½x⅜	3¼x4¼	3	10	700



BREAK IRON BRACKET

No. 8280 break iron bracket is the Western Union standard and is furnished complete with No. 7015 pins.

Cat. No.	Pin Spac. Inches	Std. Pkg.	Wt. Lbs. Per 100
8280	6½	20	394

TELEPHONE DISTRIBUTING BRACKETS

Made in accordance with A. T. & T. specifications. No. 8202 is used for pole work and No. 8200 is used on houses.

Cat. No.	Size Steel	Length of Legs	Std. Pkg.	Wt. Lbs. Per 100
8200	1¾x 3/16	2⅞x3¼	100	60
8202	2 x¼	3 x3¾	100	93

No. 8202

LOCKE POLE LINE HARDWARE

TELEPHONE CORNER BRACKETS

Nos. 8204 and 8205 are used where the lead from the pole comes to the building at an angle.

Cat. No.	Size Steel	Length of Legs	Std. Pkg.	Wt. Lbs. Per 100
8204	1 7/32 x 3 7/32	4 x 5	100	63
8205	1 7/32 x 3 7/32	2 7/8 x 10 3/8	100	102

CABLE SUSPENSION CLAMPS

No. 7903

No. 7901

Suspension clamps are made of special rolled section of open hearth steel 1 1/16 inches wide and 3/8-inch thick and are shaped so as to securely grip messenger strands of the sizes shown.

Cat. No.	Type	Length Inches	Size Strand Inches	Std. Pkg.	Wt. Lbs. Per 100
7901	1-Bolt	2 1/2	1/4 to 7/16	100	76
7903	3-Bolt	4 3/4	1/4 to 7/16	25	200

REINFORCING LINKS

Made of 1/2-inch steel and are used on each side of cable suspension clamp to relieve side strains at corners in the line.

Cat. No.	Length Inches	Size of Steel	Std. Pkg.	Wt. Lbs. Per 100
7919	5 3/4	1/2	50	105
7929	8 3/8	1/2	50	110

PORCELAIN TELEPHONE KNOBS

Porcelain knobs are of dry process and white glazed.

2-Groove Type

Cat. No.	Size Hole Inches	Lgth. Inches	Wt. Lbs. Per 100
8225	3/8	1 7/16	20

4-Groove Type

8226	7/16	2 1/4	36

No. 8226

No. 8225

BOLTS FOR PORCELAIN KNOBS

These bolts are used for attaching porcelain knobs to telephone brackets.

Cat. No.	Type	Diam. In.	Lgth. In.	Std. Pkg.	Wt. Lbs. Per 100
8232	Stove	5/16	2	1000	6.2
8603	Machine	5/8	3	500	12.8

LOCKE POLE LINE HARDWARE

PULLING-IN IRONS

Pulling-in irons provide a strong and convenient attachment for pulling-in blocks used in installing or removing cables from ducts. They are designed to straddle the brick and are set in the manhole opposite all duct entrances.

Cat. No.	Size Steel	Extension	Std. Pkg.	Wt. Lbs. Per 100
8119	7/8	9	5	500
8120	7/8	12	5	610

TELEPHONE KNOB SCREW

Used extensively for twisted telephone pairs and for lighting wires. The white glazed porcelain knob No. 1927 is used with this fixture. Screw is 5/16-inch in diameter and 2 1/2 inches long.

Cat. No.	Type	Size Screw	Std. Pkg.	Wt. Lbs. Per 100
1920	Screw	5/16 x 2 1/2	100	47

PORCELAIN KNOBS

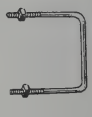
This knob is of white glazed dry process porcelain and is 1 1/2 inches high and 1 3/4 inches in diameter with 1/2-inch wire groove.

Cat. No.	Wire Groove	Size Hole	Std. Pkg.	Wt. Lbs. Per 100
1927	1/2	1/2	100	35

CROSS ARM U STRAPS

Made of 3/8-inch round steel.

Cat. No.	For Arm	Std. Pkg.	Wt. Lbs. Per 100
0021	3 1/4 x 4 1/4	100	46
0022	3 1/2 x 4 1/2	100	49
0023	3 3/4 x 4 3/4	100	51
0024	4 x 5	100	55



SHIELDS

No. 8142

No. 8140

No. 8140 cable duct shields are made from No. 20 gauge sheet steel in accordance with the A. T. & T. specifications and the No. 8142 is made from No. 12 gauge steel.

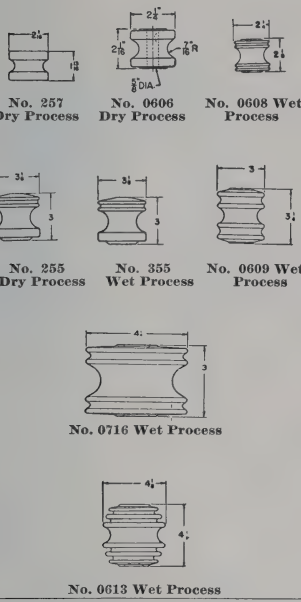
The hooks have been designed to be used with or without insulators. The insulators fit snugly on the cable hooks and the weight of the cable keeps them in place.

Shields

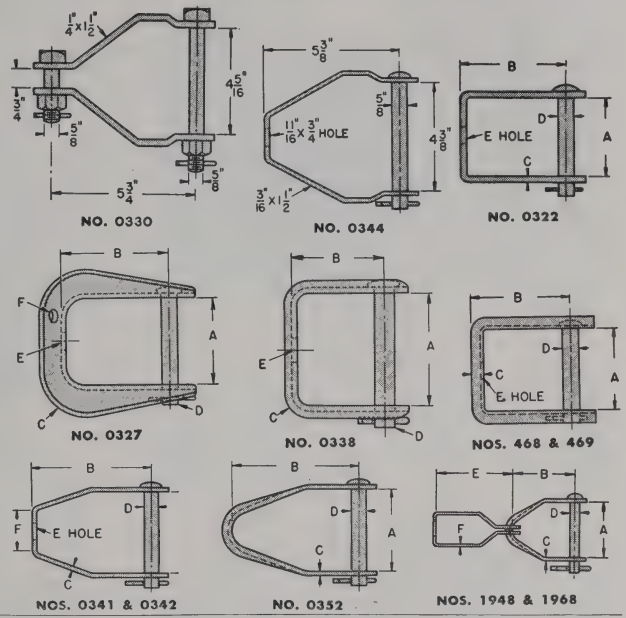
Cat. No.	Diam. Inches	Length Inches	Std. Pkg.	Wt. Lbs. Per 100
8140	3	6	100	47
8142	2 5/8	9	50	156

LOCKE CLEVISES AND SPOOL INSULATORS

SPOOL INSULATORS


No. 257 Dry Process
No. 0606 Dry Process
No. 0608 Wet Process
No. 255 Dry Process
No. 355 Wet Process
No. 0609 Wet Process
No. 0716 Wet Process
No. 0613 Wet Process

LOCKE CLEVISES



SECONDARY CLEVISES—SWINGING TYPE

Swinging Type Clevises are generally used with either eye bolt or a fitting to allow the clevis to swing out of line. Recommended for lines rated 600 volts or less. Designed for strength to cause spool breakage before clevis failure.

Catalog Number	Use Insulator Cat. No.	Dimensions—Inches						Flashover Kv		Wt. Lbs. Per 100
		A	B	C	D	E	F	Dry	Wet	
0352	255 355 0609 0716	3 5/16	5	3/16 x 1 1/4	5/8	.	..	26	16	277
1948	0606 0608	2 1/4	2 1/2	1/8 x 3/4	3/8	3	1/8 x 1 3/4	20	12	136
1968	255 355 0609 0716	3 5/16	5	3/16 x 1 1/4	5/8	3	1/8 x 1 3/4	26	16	290

PRIMARY CLEVISES—Galvanized Steel

Locke Primary Clevises are designed for use on primary voltage lines. Often used in place of a suspension type dead end. Generally satisfactory for use on primary circuits rated 3000 V. less.

Cat. No.	Use Insulator Cat. No.	Flashover Kv Dry	Flashover Kv Wet	Wt. Lbs. Per 100
0330	**0613**	36	26	520
0344	**0613**	36	26	540

0330 Clevis is designed for mounting on an eye or eye bolt, and is free to swing at an angle to the dead-end structure.
0344 Clevis is mounted on a dead structure by means of a bolt. Rigid construction for in-line dead ends is assured.

SECONDARY CLEVISES—Galvanized Steel

Locke Secondary Clevises are designed to fit Locke Spools; both are engineered to fit together. Generally recommended for circuits of 600 volts and less.

Catalog Number	Use Insulator Cat. No.	Dimensions—Inches						Flashover Kv		Wt. Lbs. Per 100
		A	B	C	D	E	F	Dry	Wet	
0322	255 355 0609 0716	3 3/8	4 1/4	1/4 x 1 1/2	5/8	11/16 x 7/8	...	26	16	193
468	255 355 0609 0716	3 5/16	4	1 x 1/2 x 1/8	5/8	11/16	...	26	16	200
469	255 355 0609 0716	3 5/16	4 1/4	1 1/2 x 9/16 x 3/16	5/8	11/16 x 7/8	...	26	16	392
0338	255 355 0609 0716	3 5/16	3	3/16 x 3	5/8	11/16	...	26	16	216
0327	255 355 0609 0716	3 1/4	4	3/16	5/8	11/16	2 holes 9/16 dia.	26	16	285
0341	0606 0608	2 1/4	4 3/16	3/16 x 1 1/2	1/2	11/16 x 3/4	1 1/2	20	12	140
0342	255 355 0609 0716	3 5/16	4 3/4	3/16 x 1 1/2	5/8	11/16 x 3/4	1 1/2	26	16	230

LOCKE POLE LINE HARDWARE

UNDERGROUND CABLE RACKS

No. 1126

These underground racks are made of 1½x$\frac{3}{16}$x$\frac{3}{16}$-inch steel channel, of highest grade open hearth steel. Holes, ⅝x¾-inch, are large enough to accommodate ½-inch bolt.

Hooks are furnished in three lengths, and are made of "T" section open hearth steel. Smooth, well rounded, top surfaces prevent injury to the sheaths of cable so they can be used without insulators.

Cable Racks

Cat. No.	No. of Holes	Hook Hole Spacing	Length Overall	Bolt Hole Spacing	Wt. Lbs. Per 100
1124	8	1½	15	13⅝	125
1125	14	1½	24	22½	200
1126	18	1½	30	28½	255

Cable Rack Hooks

Cat. No.	Extension from Face of Rack	Size of Steel	Wt. Lbs. Per 100
1131	4	1½x1$\frac{1}{16}$x$\frac{3}{16}$	60
1132	7½	1½x1$\frac{1}{16}$x$\frac{3}{16}$	105
1133	10	1½x1$\frac{1}{16}$x$\frac{3}{16}$	119

CABLE RACK INSULATOR

The groove in the insulator allows it to fit snugly on the cable hook, and the weight of the cable holds it firmly in place.

Cat. No.	Radius of Cable	Width Inches	Wt. Lbs. Per 100
1120	1½	2¾	100

MANHOLE LADDERS

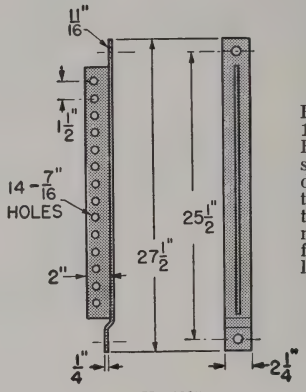
Made to specifications of telephone companies and central stations. The 6½, 8, 10 and 12-foot lengths have sides of 1½x$\frac{3}{16}$x$\frac{3}{16}$ channel. The 14-foot ladder of 7½x⅝x$\frac{3}{16}$-inch channel. Rungs are of ⅝-inch round open hearth steel. Rungs pass through the sides and riveted over on the outside. Standard packing, 5 in bundle. Rung spacing, 12 inches.

Cat. No.	Length Ft.	No. of Rungs	Width Inside	Wt. Lbs. Per 100
8111	6½	6	12	2400
8112	8	7	12	3000
8113	10	9	12	3800
8115	12	11	12	4700
8117	14	13	12	5400

LOCKE POLE LINE HARDWARE

UNDERGROUND CABLE RACKS—STANDARD HEAVY TYPE

Galvanized Steel



No. 1225

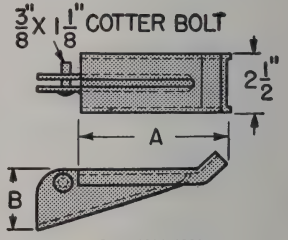
No. 1225 Cable Rack and No. 1231 to 1233 Hooks are designed for heavy duty. Bottom of the rack is offset to permit another rack to be added for additional length.

CABLE HOOKS

Hooks are made from flat steel and pressed to shape to obtain maximum strength.

Use with insulator No. 1117, 1118 or 1121.

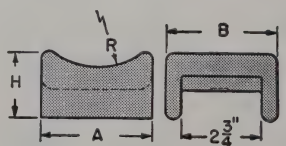
Galv. Steel.



Nos. 1231-1233

Cat. No.	Description	Dimens., In. A	B	Wt. Lbs. Per 100
1225	Cable Rack	-------	-----	-----
1231	Cable Hook	6	2⅛	178
1232	Cable Hook	10½	2¼	320
1233	Cable Hook	15	2¼	500

CABLE HOOK INSULATORS



No. 1121

No. 1121. Dry process porcelain, white glaze. Use with Hooks No. 1233. Dimensions: A and B—3¾ inches; R—2⅝ inches; H—2¼ inches. Weight per 100, 125 lbs.

CHANCE NEVER CREEP ANCHORS

Never-Creep Anchors pull entirely against solid earth. For this reason they will hold more under normal conditions than any other patent anchor of comparable size. The Never-Creep is fabricated of steel and reinforced in the area of pull with special, high carbon, reinforced plate and a rod socket plate all welded together to form one piece. The reinforcing rib across the top of the plate acts as a skid bar to prevent the anchor from slipping up the hole. One end of the plate is formed to fit a Never-Creep Installing Bar, which is used to lower the anchor into the hole. The Never-Creep Rod has a drop forged steel driving point that fits snugly into the socket on the underneath side of the anchor.

To install: Bore the hole, drive the rod, hang on the plate, pull up the guy.

Cat. No.	Anchor Size Inches	Rod Size	Area Classification Sq. In.	Wt. Lbs. Per 100 Pcs.	Price Each
† 617	6 x 17	⅝" x 7'	102	859	$ 2.18
† 622	6 x 22	¾" x 8'	132	1117	2.95
† 822	8 x 22	¾" x 8'	176	1603	3.96
† 827	8 x 27	¾" x 8'	216	2267	4.66
* 835S	8 x 35	1" x 8'	280	2500	9.62
*1040S	10 x 40	1" x 8'	400	4000	16.90

Never-Creep Thimbleye Rods

Cat. No.	Diam. In.	Length Feet	No. in Bundle	Wt. Lbs. Per 100	Price Per 100
25	½	5	10	364	$103.67
26	½	6	10	446	111.98
27	½	7	10	500	120.72
56	⅝	6	10	661	138.79
57	⅝	7	10	749	153.28
58	⅝	8	10	830	167.78
36	¾	6	5	905	179.27
37	¾	7	5	1069	209.64
38	¾	8	5	1198	231.38
39	¾	9	5	1350	253.13
310	¾	10	5	1500	274.87
17	1	7	3	2150	365.35
18	1	8	3	2300	403.76
10	1	10	3	2600	480.62

Never-Creep Twineye Rods

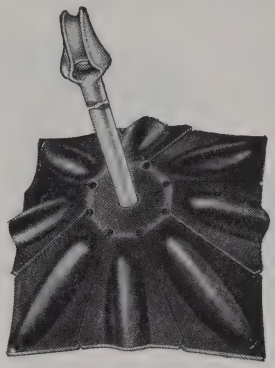
560	⅝	6	10	655	$139.07
570	⅝	7	10	765	153.57
580R	⅝	8	10	840	168.06
360	¾	6	5	970	182.13
370	¾	7	5	1080	204.74
380	¾	8	5	1216	226.75
390	¾	9	5	1350	248.06
170	1	7	3	2160	365.35
180	1	8	3	2107	403.76
1100	1	10	3	2600	480.62

Never-Creep Tripleye Rods

3600	¾	6	5	960	$189.45
3700	¾	7	5	1120	209.75
3800	¾	8	5	1215	229.46
3900	¾	9	5	1350	249.45
1700	1	7	3	2150	360.93
1800	1	8	3	2300	396.81
11000	1	10	3	2600	469.92

†Indicates Steel Never-Creep Anchor.
*Indicates Malleable Never-Creep Anchor.

CHANCE 8-WAY EXPANDING ANCHOR

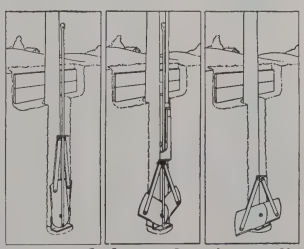


This anchor has 8 steel blades that expand to form a square. They distribute the load evenly all the way around the anchor. The Anchor baseplate is provided with a blade stop which causes the Anchor to expand in a cone shape. Sturdily constructed; no hinges, moving parts, or mechanical devices to hinder its smooth operation.

Cat. No.	Hole Size	Area Sq. In.	Nominal Class	Rod Size (Order Separately)	App. Wt. Per 100	Price Each
6870	6"	70	2200, 4000 6000	½"x6', ⅝"x7' or 8'	467	$1.70
88100	8"	100	6000	⅝"x7'	811	2.05
88115	8"	115	8000	¾"x8'	880	2.24
88135	8"	135	10000, 12000		1056	2.90
88135–1	8"	135	10000, 12000	1"x10'	1056	2.90
1082	10"	200	20000		1900	.....

CHANCE POLE KEY ANCHOR

Is the most economical and efficient means for keying poles at their butt to reinforce them against unbalanced loads in soil. Field tests show that Chance Pole Keys, which expand into solid earth, have 50 per cent greater efficiency than the old wood keys which rest entirely in tamped earth. The new type pole key can be installed in about 15 minutes versus nearly 3 hrs. time required to install a wood key.

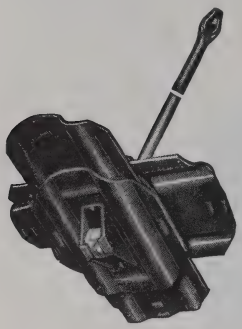


The illustrations at right show the method of installation. A ¾-inch anchor rod with $\frac{1}{8}$-inch thread is screwed into the anchor which is then dropped into the hole as indicated. An ordinary expanding and tamping bar is then used to expand the anchor into solid earth. When key is completely expanded anchor rod is removed and hole filled and tamped.

Cat. No.	Width Expanded	Blade Width	Area Expanded	Approx. Wt. Lbs.	Price Each
P4817	26	8¼	214 sq. in.	26	$5.61

CHANCE ANCHORS AND RODS

4-WAY AND 2-WAY EXPANDING ANCHORS



A long time favorite of engineers and line crews, this Anchor is sturdily constructed of steel with reinforced ribbed blades that expand in opposite directions.

A super expanding anchor with nut retainer which prevents anchor sliding up on rod when installing.

4-Way Anchors

Cat. No.	Size Anchor	Rod Size Inches		Area Sq. In.	Wt. Lbs. Per 100	Price Each
64	6-in.	½ ⅝ ¾		70	734	**$2.15**
1044	10-in.	1		200	2540	**5.17**
124	12-in.	1	1¼	300	4130	**10.24**

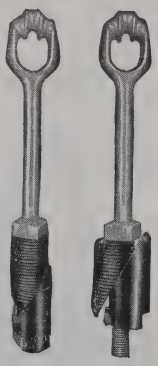
2-Way Anchors

62	6-in.	½	⅝	50	485	**1.62**

EXPANDING ROCK ANCHORS

The Chance Rock Anchor overcomes the hazards and difficulties of older methods of rock anchoring. It requires no lead or concrete to make it hold. Simply drill a hole in the rock, drop the anchor into the hole and expand it by turning the rod clockwise with a bar inserted in the eye. The harder the pull, the more this anchor wants to expand.

Corrugation on the sides of the anchor creates friction and increases holding power.



Cat. No.	Size, Inches Anchor	Rod	Wt. Lbs. Per 100	Price Each
R315▲	1¾	¾	500	**$2.75**
R330▲	1¾	¾	680	**2.97**
R353▲	1¾	¾	965	**3.28**

▲These items are R.E.A. Standard.

NO-WRENCH SCREW ANCHORS

This is an all steel Screw Anchor, the forged steel Tripleye Rod being double arc welded to the forged steel blade. The Tripleye is large enough to admit a bar for use as a wrench to screw down. It will accommodate one, two, or three guys. The forged steel rod, having a higher carbon content than other types of rods, will not yield to torque during installation. The blade or helix is tapered and sharpened. Both rod and helix are heavily galvanized before helix is dipped in asphaltum paint.

Cat. No. Thimbleye	Cat. No. Tripleye	Anchor Size Inches	Area Sq. In.	Rod Size Inches	Wt. Lbs. Per 100	Price Each
4345-1	4345	4	12½	¾	809	**$2.10**
6346-1	6346	6	28	¾	1087	**3.13**
816-1	816	8	50	1	1832	**5.32**
----------	10146	10	78	1¼	3078	-----
----------	10148	10	78	1¼	4173	-----

CHANCE ANCHORS AND RODS

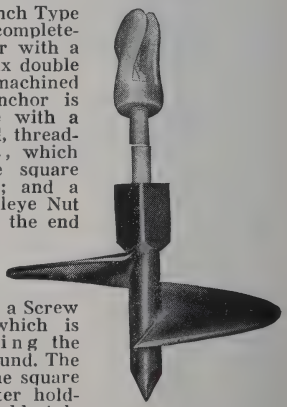
SWAMP SCREW ANCHORS

This new Swamp Anchor design has several improvements. The inner construction of the anchor hub is such that the pipe wedges in tight and makes the anchor and pipe as one piece. The anchor is furnished complete with a Tripleye Rod. Both pieces are cast of malleable iron for light weight, reduced bulk and increased strength.

The cutting-edge of the anchor blade is sharpened to aid cutting through roots, etc. A ridge back of this edge reduces friction on the balance of the blade. The tripleye nut accommodates 1, 2, or 3 strands.

Cat. No.	Size, Inches Anchor	Rod	Wt. Lbs. Per 100	Price Each
8125-A	8	1¼	725	**$5.31**
10150-A	10	1½	1100	**6.62**
122-A	12	2	1800	**8.86**
152-A	15	2	2750	**11.60**

WRENCH-TYPE SCREW ANCHORS



The Chance Wrench Type Screw Anchor is a completely improved anchor with a structural steel helix double arc welded to a machined steel hub. The anchor is furnished complete with a galvanized steel rod, threaded at both ends, which screws into the square shank of the hub; and a threaded Thimbleye Nut which screws onto the end of the rod after the anchor has been installed. The square shank is made to fit a Screw Anchor Wrench which is used for screwing the anchor into the ground. The small hub below the square shank allows greater holding area than the old style and minimizes earth disturbance during installation. The thin steel helix or blade is more easily installed than the heavier cast type screw anchor. The helix and hub are dipped in black asphaltum paint. Rod and Thimbleye Nut are heavily galvanized.

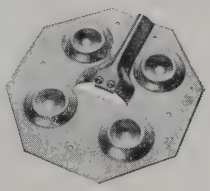
Cat. No.	Size, Inches Anchor	Rod	Wt. Lbs. Per 100	Price Each
1126-S	6	½	800	**$3.17**
1586-S	6	⅝	920	**3.46**
1588-S	8	⅝	1134	**4.75**
1348-S	8	¾	1450	**5.34**
15810-S	10	⅝	1500	**5.97**
13410-S	10	¾	1750	**6.57**

CHANCE 8-WAY STEEL CONE ANCHOR

The Chance 8-Way Steel Cone Anchor has 8-flat wedged surfaces and wedged reinforced base — a combined feature which gives 8-Way wedging against tamped rock fill. Being steel, the Cone Anchor will not break in handling or tamping. It has a nut retainer that holds the anchor on the end of the rod as it is being lowered into the hole.

Cat. No.	Anchor Size Inches	Area Sq. In.	Rod Dia. Inches	Rod Lgth. Feet	Approx. Wt. Lbs. Per 100	No. in Bdle.
8-S	8	63	⅝, ¾	7	450	5
10-S	10	104	⅝, ¾	7	600	5
12-S	12	132	⅝, ¾	8	850	5
16-S	16	239	¾	9	1830	2

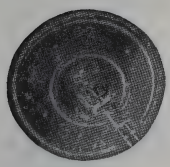
T & B POLE GROUND PLATE



For new pole line construction work and pole replacement projects. Stamped of high grade copper, it contains 4 built-in puddling cups which tend to retain the natural moisture accumulating at the butt of the pole. The constant vibration of the poles aids in the puddling action and a more positive ground is obtained.

Cat. No.	Std. Pkg.	Unit Qty.	Wt. Lbs. Per 100	Price Per 100
5575	50	10	50	**$105.00**

BLACKBURN POLE BOTTOM GROUND PLATE

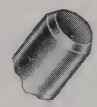


REA Approved

A pole-butt grounding device incorporating all the better features of quality design. Made of round solid copper discs, embossed for greater rigidity. A double bar connector (one bar on each side of plate) grips the ground wire tightly and positively. Makes a permanently efficient connection—wire will not pull out or loosen when pole is set in the hole. High strength silicon bronze connector screws may be drawn up tightly without breaking or stripping and will not season crack after installation. One size covers all applications.

Standard package, 50; shipping weight, 40 lbs. per 100.

BLACKBURN COPPER-CLAD GROUND RODS



Completely covered ends eliminate end corrosion.

Heavy uniform copper sheath, molecularly bonded to the steel core.

A strong and more rigid steel core for better driving.

Machined point aids driving. Completely copper covered.

TYPE A
Listed by Underwriters
REA Approved

A uniform non-porous, pure copper coating is molecularly bonded to a high carbon steel core and will not pull off when rod is driven. The high carbon steel core provides greater strength and rigidity for easier driving. All Blackburn ground rods have a rolled scar-resistance surface. Both the point and the driving end are entirely covered with the same uniform copper coating to completely protect the steel core and give maximum life. The smooth machined point improves driving even in rocky soil. A large chamfer on the driving end reduces possibility of "mushrooming". The Blackburn copper clad ground rod is a new, improved rod and is fully approved by Underwriters' and REA. When ordering specify both "diameter" and "length" or use "Catalog Numbers" shown in tables below.

Cat. No.	Rod Size, In. Diameter	Rod Size, Feet Length	Std. Bundles	Shpg. Wt. Per 100 Rods
5006	½	6	5	380
5008	½	8	5	505
5010	½	10	5	630
6256	⅝	6	5	585
6257	⅝	7	5	680
6258	⅝	8	5	780
6260	⅝	10	5	975
7508	¾	8	3	1140
7510	¾	10	3	1425

BLACKBURN GROUND ROD CLAMPS

"ECONOMY" GROUND ROD CLAMPS

Type B

Is inexpensive, in the lowest price range. It is made of high strength materials throughout and is a strong clamp yet is small and compact. The combination of alloys used reduce thread friction so that clamp produces a high pressure connection.

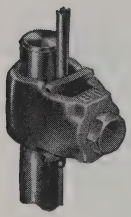
Furnished only with square head set screw.

Cat. No.	Rod Size In.	Wire Range	Std. Pkg.
G4	½	8 solid — 4 solid	100
G5	⅝	8 solid — 4 solid	100
G6	¾	8 solid — 4 solid	100

BLACKBURN CONNECTORS AND CLAMPS

BLACKBURN HI-STRENGTH GROUND ROD CLAMP

Type A



A high strength, high quality clamp throughout yet economical to use. Large set screw bears on floating pressure bar to protect rod and wire. Made of high strength alloys throughout. The combination of bronze alloys used reduces thread friction so that clamp produces a very high pressure connection. Furnished with hexagon head or socket set screw.

Cat. No. With Hex. Set Screw	Cat. No. With Socket Set Screw	Rod Size	Wire Range	Std. Pkg.
GG1/2H	GG1/2	1/2	14 solid—2 solid	100
GG5/8H	GG5/8	5/8	8 solid—2 str.	100
*GG3/4H	*GG3/4	3/4	8 solid—2 str.	100

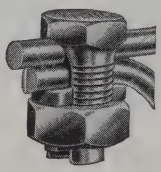
*Does not have floating pressure bar as pictured.

BLACKBURN HI-STRENGTH SPLIT-BOLT CONNECTORS

For Inside and Outdoor Use

Listed by Underwriters

REA Approved



Made of high strength Silicon Bronze alloys for extra strength, will not twist or distort when tightened up and can be used over and over again. The combination of bronze alloys used reduces thread friction so that the connector produces a greater pressure on the wires resulting in a tight, dependable, low resistance connection. Gives completely trouble-free service on the lines. Makes an efficient compact and easy-to-tape connection.

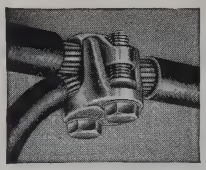
Cat. No.	Wire Sizes Solid	Wire Sizes Stranded	Std. Pkg.
10H	10	10	100
8H	8	8	100
8H-3*	8	8	100
6H	6	8	100
6H-3*	6	8	100
4H	4	5	100
4H-3*	4	5	100
2H	2	3	100
2H-3*	2	3	100
1H	1	2	100
1/0H	1/0	1/0	50
2/0H	3/0	2/0	25
4/0H**	4/0	4/0	25
350M**	------	350MCM	1
500M**	------	500MCM	1
750M**	------	750MCM	1
1000M**	------	1000MCM	1

*For 3 wires.

**Spacer washers available.

NOTE: Connectors for aluminum, Amerductor and steel wires also available.

BLACKBURN CONNECTORS AND CLAMPS



BLACKBURN HI-STRENGTH TWO-BOLT CLAMPS

For Inside and Outdoor Use

Listed by Underwriters

REA Approved

For medium and large stranded wire and cable. Produces high pressure on wires resulting in a very efficient, low resistance connection. Costs less than other type connectors commonly used. Made of high strength alloys throughout. Compact, easy to tape. Exclusive helical serrations conforming to the lay of the wire produce a very effective clamping action. Thus, clamp is excellent for dead ends as well as taps, splices, and other connections.

Cat. No.	Cable Ranges Main	Cable Ranges Tap	Std. Pkg.
2B-1/0	1-1/0	6-2/0	25
2B-2/0	1/0-2/0	6-2/0	25
2B-4/0	2/0-4/0	6-4/0	25
2B-350	250-350 MCM	1/0-350 MCM	6
2B-500	400-500 MCM	2/0-500 MCM	6
2B-750	600-750 MCM	2/0-500 MCM	1
2B-1000	800-1000 MCM	4/0-1000 MCM	1

*All sizes will accommodate one capacity wire and down to one #8 solid wire. Also furnished with spacers.

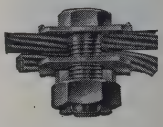
BLACKBURN ALUMINUM CONNECTORS

REA Approved

Designed primarily for ACSR and regular Stranded Aluminum Cable, these connectors may also be used in Amerductor, galvanized steel wires and guys. High strength aluminum alloys, coupled with rugged design, make these connectors exceedingly durable.

The green tint on the bolt and nut is due to the protective Alumilite No. 210 Process. This process prevents corrosion and seizing of the nut. Because of this, the nut may be easily removed from the bolt, even after the connector has been in service for years.

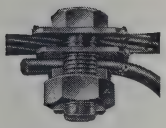
FOR ALUMINUM TO ALUMINUM CABLES



Fully machined bolt and nut made of high strength aluminum alloys. Furnished with aluminum or cadmium plated pressure bar and washers.

Cat. No.	Max. Cable Size ACSR	Max. Cable Size Str. Alum.	Slot Width	Effective Slot Depth*	Hex. Nut	Std. Pkg.
4AAW	4	4	.271	.513	13/16	100
2AAW	2	2	.315	.662	7/8	100
1AAW	1	1 & 1/0	.385	.712	1	50
1/0AAW	1/0	2/0	.442	.792	1 1/8	25

BLACKBURN CONNECTORS AND CLAMPS



FOR ALUMINUM TO COPPER WIRES

Fully machined bolt and nut made of high strength aluminum alloys. Furnished with copper pressure bar, one bell-mouthed aluminum washer, and one true aluminum-copper bi-metallic washer.

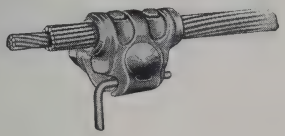
Cat. No.	Max. Cable Size ACSR	Str. Alum.	Copper Tap	Slot Width**	Effective Slot Depth	Hex. Nut
4CA	4	4	2 So.	.271	.513	11/16
2CA	2	2	2 Str.	.315	.662	7/8
1CA	1	1 & 1/0	1/0 Str.	.385	.712	1
1/0CA	1/0	2/0	2/0 Str.	.442	.792	1 1/8
4/0CA‡	2/0&4/0	4/0	4/0 Str.	.569	.990	1 1/4

Standard package: No. 4CA and 2CA, 100; 1CA, 50; 1/0CA and 4/0CA, 25.

**With washer installed on connector.

‡Furnished with one bi-metallic separating washer only.

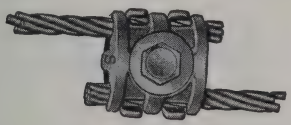
SHERMAN ARMOR-ROD CLAMPS



Made of high strength aluminum alloy to insure high conductivity, and permanent connections. Heavy galvanized bolt, with nut and lockwasher. Standard package, 25; weight per 100, 35 lbs.

Cat. No.	Description	List Price Each
R101	For aluminum line wire over Armor Rods to copper taps—one universal clamp for all usual sizes of wire. Has copper line in small groove	$1.10
R102	For aluminum wire over Armor Rods to aluminum, galv. steel conductor or guy strand tap	.88

SHERMAN JUMPER CLAMPS



For copper, aluminum, Amerductor or galvanized steel strand. Bodies of high grade electrical bronze, plated where necessary for use on aluminum, etc.

Cat. No.	Description	List Price Each
R33	Copper to copper, No. 2/0 or smaller	$0.48
R22	Aluminum to Aluminum, etc., No. 1/0 or smaller	.48
R12	1/0 ACSR or smaller to 2/0 Copper or smaller	.60

Ask for prices on larger quantities.

"U-W" WELDLESS TURNBUCKLES

Self-Colored—Drop-Forged—Galvanized

U. S. Right- and Left-Hand Thread

H-41—Hook and Eye

H-42—Hook and Hook

H-43—Eye and Eye

Diam. and Takeup Inches	Approx. Wt. Lbs. Per 100	Approx. Overall Length Inches	Approx. Strength, Lbs. E&E	H&H	Price Each H and E H and H E and E Galv.	S.C.
1/4 x 4	28	7 1/2	1560	1050	$0.72	$0.67
5/16 x 4 1/2	46	9 1/4	2700	1640	.84	.78
3/8 x 6	85	11	4080	2290	1.08	1.00
1/2 x 6	150	12 1/2	7560	3670	1.56	1.44
1/2 x 9	190	15 1/2	7560	3670	2.22	1.98
1/2 x 12	245	18 1/2	7560	3670	2.70	2.34
5/8 x 6	258	14 1/2	12120	5400	1.92	1.62
5/8 x 9	310	17 1/2	12120	5400	2.62	2.17
5/8 x 12	380	20 1/2	12120	5400	3.15	2.55
3/4 x 6	395	17	18120	7530	2.70	2.34
3/4 x 12	550	23	18120	7530	4.05	3.30

"U-W" WIRE ROPE CLIPS

Japanned or Galvanized

The base of the rugged "U-W" Clip is "Certified" malleable iron.

U-bolt is open hearth steel, fitted with Hex nuts.

Dependable, economical and safe product.

H-92

Size Inches Rope Dia.	Net Wt. Lbs. Per 100	List Price Per 100 Japanned	Galvanized
3/16	6.8	$6.50	$8.00
1/4	14.5	8.50	9.35
5/16	16	9.30	10.40
3/8	24	12.80	14.40
7/16	29	14.30	16.15
1/2	37	14.50	18.50

"U-W" WIRE ROPE THIMBLES

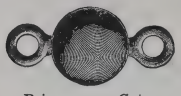
H-81

Regular Type. Wrought Steel. Hot Galvanized.

Size Inches Rope Dia.	Dimens., Inches Overall Length	Inside Width	Approx. Wt. Lbs. Per 100	List Price Per 100
3/16	1 1/2	5/8	2.3	$5.85
1/4	1 7/8	3/4	5	5.85
5/16	2 1/8	7/8	6.8	7.25
3/8	2 1/2	1	9	8.70
1/2	3 1/8	1 1/4	16	11.60

KEYSTONE STRAIN INSULATORS

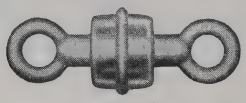
GLOBE STRAIN INSULATORS
Malleable Iron



Cat. No.	Diam. In.	Price Per 100	Cat. No.	Diam. In.	Price Per 100
41740	2	**$135.75**	**41748**	3	**$263.50**
41744	2½	**174.50**	----------	------	----------

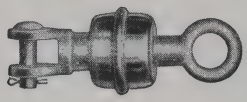
Also supplied with eye and clevis.

GIANT SHEET MICA INSULATORS



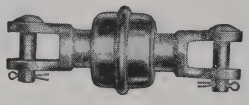
With Two Eyes

Cat. No.	Diam. of Body	Inside Diam. of Eyes	Distance Between Centers	Diam. of Stud Con.	Average Breaking Strain, Lbs.	Price Per 100
31333	2¼	11/16	4 7/16	½	7500	**$241.00**
31334	2¼	11/16 & 1	4⅞	½	7500	**247.00**
31335	2¼	1	5¼	½	7500	**252.00**
31336	2 11/16	1	5¼	⅝	10000	**283.00**
31337	3	1	5¾	¾	12500	**326.00**



With Eye and Clevis

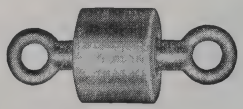
Cat. No.	Dia. of Body	Inside Diam. of Eye	Width of Clevis	Distance Between Centers	Di. of Stud Con.	Average Breaking Strain,Lbs.	Price Per 100
31388	2¼	11/16	⅝	4 31/32	½	7500	**$239.00**
64705	2¼	1	⅝	5 1/16	½	7500	**243.00**
31389	2 1/16	1	13/16	5½	⅝	10000	**289.00**
31390	3	1	13/16	5⅞	¾	12500	**328.00**



With Two Clevises

Cat. No.	Diam. of Body	Width of Clevises	Distance Between Centers	Diam. of Stud Con.	Average Breaking Strain, Lbs.	Price Per 100
31392	2¼	⅝	4⅞	½	7500	**$202.40**
31393	2 1/16	13/16	5¾	⅝	10000	**249.20**
31394	3	13/16	6	¾	12500	**274.00**

PORCELAIN COVERED GIANT SHEET MICA INSULATORS



Cat. No.	Dia. of Body	Inside Diam. of Eye	Width of Clevis	Distance Between Centers	Di. of Stud Con.	Average Breaking Strain,Lbs.	Price Per 100
61348	3⅜	1	----	6⅛	⅝	10000	**$253.00**
61350	3⅜	1	13/16	6 7/16	⅝	10000	**312.00**
61349	3⅜	--	13/16	6¾	⅝	10000	**343.00**

No. 61348 is fitted with two eyes; No. 61350 with eye and clevis and No. 61349 with two clevises.

ELRECO MINE TROLLEY MATERIAL

WOOD BREAK STRAIN INSULATORS

Made only from carefully selected hickory pieces, treated to exclude moisture, and finished with a coat of clear insulating varnish. The one-piece caps are malleable iron, cadmium plated, swedged over the tapered ends of the hickory insulator. The 1-inch size has an average breaking strain of 7000 pounds and the 1¼-inch size will average about 8000 pounds.

Type A, Two Eyes

Cat. No.	Volt-age	Diam. In.	*Length In.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
7133	750	1	5	50	165	**$ 75.00**
7919	1200	1	10	50	175	**80.00**
7920	1500	1	12	50	185	**90.00**
7921	2400	1	15	50	195	**105.00**
7134	750	1¼	5	50	230	**85.00**
7922	1200	1¼	10	50	240	**95.00**
7923	1500	1¼	12	50	250	**105.00**
7924	2400	1¼	15	50	260	**120.00**

Type D, Eye and Clevis

7933	750	1	5	50	155	**$ 90.00**
7934	750	1¼	5	50	255	**100.00**
7935	1200	1	10	50	255	**95.00**
7936	1200	1¼	10	50	355	**110.00**

*Length refers to exposed wood surface.

BROOKLYN STRAIN INSULATORS

Insulated body has one end tapped for bolt attachment and the other is provided with a shoulder to engage a machined and threaded malleable iron casting in which the oval eye part is securely threaded and anchored. ⅝-inch size has a strain test of 5000 pounds, ¾-inch size has a strain test of 7500 pounds, both sizes have an electrical test of 7500 volts. Extended length of insulators 12 inches, take-up 3 inches; length of exposed insulating surface 2¼ inches; 1-inch round opening on eyebolts. Clevis has ¾-inch clearance between jaws.

Type S-C, with Clevis

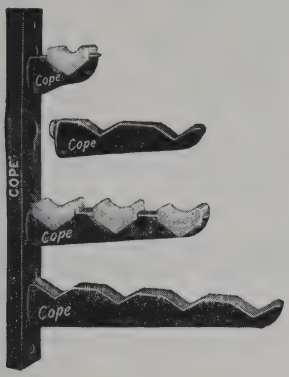
Cat. No.	Clevis Bolt, In.	For Cable C.M.	Wt. Lbs. Per 100	Price Per 100
8886	⅝	500,000	375	**$250.00**
8887	¾	1,000,000	490	**360.00**

Type S-I, with Eyebolt

6428	⅝	500,000	375	**$250.00**
6430	¾	1,000,000	490	**360.00**

COPE CABLE TOOLS

TYPE C CABLE RACKS AND ARMS



For rigidity and outstanding strength this rack has all that any weight will require of it. Note the wide surface of the arm where it bears against the upright. The swivel shank permits the arm to assume the same angle as the cable, thus eliminating any chafing of the insulation. The uprights are made from the best grade 3 inch 4.1 pound channel. Standard lengths and hole spacing are as described below but any length or spacing can be supplied on order.

The arms are cast gray iron of the best quality. They slip easily into the keyhole-like slots in the uprights. No difficulty will be encountered in removing any arm while other cables rest above or below. The cable notches are spaced on either 5 or 6 inch centers for 1, 2, 3 or 4 cables. Arms and uprights are supplied in either black or hot galvanized finish.

Racks

Cat. No.	No. of Arm Holes	Hole Centers Inches	Overall Lgth. Inches	⅝-Inch Mounting Hole Centers, In.	Wt. Lbs. Per 100
150	2	6	16	13½	580
151	3	6	22	19½	800
152	4	6	28	25½	1020
153	5	6	34	31½	1240
154	6	6	40	37½	1460
155	2	8	18	15½	655
156	3	8	26	23½	945
157	4	8	34	31½	1235
158	5	8	42	39½	1525
159	6	8	50	47½	1815

Arms

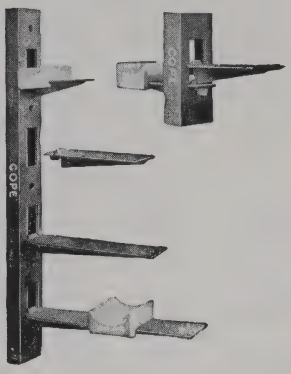
Cat. No.	No. of Cables	Cable Centers Inches	Wt. Lbs. Per 100
165	1	6	170
166	2	6	295
167	3	6	530
168	4	6	720

Porcelain Saddle Insulators—weight 65 lbs. per 100.

Prices on request.

COPE CABLE TOOLS

TYPE S CABLE RACK AND ARMS



For heavy manhole, vault and shaft installations this rack will be found most flexible. The arm will tilt to any angle of the cable and the coupling arrangement is designed to permit double racking as shown in the inset. The uprights are made of the finest grade 3 inch, 4.1 lb. channel. Standard lengths and hole spacings are as described below but any length and arm spacing can be supplied on order. Bolt holes are centered between each arm slot. They are easily removable without disturbance to arms or cables above or below.

Uprights and arms are hot galvanized finish.

Porcelain supports come in two sizes to accommodate 2½ inch and 5 inch cables. The underlips hold them securely on the arm but at the same time permit perfect alignment with the cable.

Racks

Cat. No.	No. of Arm Holes	Hole Center Inches	Overall Inches	⅝" Mounting Hole Centers	Wt. Lbs. Per 100
170	2	6	16	13½	560
171	3	6	22	19½	780
172	4	6	28	25½	1000
173	5	6	34	31½	1220
174	6	6	40	37½	1440
175	2	8	18	15½	635
176	3	8	26	23½	925
177	4	8	34	31½	1215
178	5	8	42	39½	1505
179	6	8	50	47½	1795

Arms

Cat. No.	No. of Cables	Lgth. of Arm Ins.	Wt. Lbs. Per 100
180	1	5	85
181	2	7½	125
182	3	11	170
183	4	14	205

Porcelains

Cat. No.	Size, Inches	Wt. Lbs. Per 100
184	2¼	80
185	5	140

Prices on request.

COPE CABLE TOOLS

TYPE T CABLE RACKS AND ARMS

A real achievement in a light but surprisingly strong cable rack. The feature of the rack is that it is punched the entire length of the section with ¾ x ⅞ inch holes which are used both for arms and anchorage. This allows the full length of the section to be utilized without waste. The arms are of certified cast malleable iron and can be used on any of the similar racking now in place. The arms will tilt safely to an angle of 30 degrees to take the angle of the cable and can be used in adjacent holes for minimum cable spacing. A feature of the arms is that the double struts bear against the flanges of the channel rather than the thin web.

The uprights are supplied in 10 feet length and may be cut to any required size. They are of 1½ x ⅝ x ⅜ in. open hearth channel.

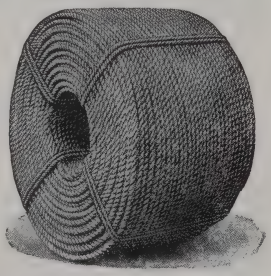
Racks; weight, 125 pounds per 100 feet. Racks and arms are hot galvanized finish.

Arms

Cat. No.	Length of Arms, Inches	Wt. Lbs. Per 100
201	4	35
202	7½	65
203	10	85

COLUMBIAN MANILA ROPE

LINEMEN'S SPECIAL MANILA ROPE



Actual conductivity tests by a large electrical research laboratory have shown that the waterproofing treatment in Columbian Manila Rope makes it, by virtue of its slow absorption of moisture, much safer to use than non-waterproofed rope.

Three-Strand

Size Inches Dia.	Cir.	Approx. Gross Weight, Pounds Full Coil 1200 Feet	Per Ft.	Length in One Lb. Ft.	In.	Strength in Pounds Breaking	Working
6thF 3/16	5/8	*(40) 18	.015	66	7	450	90
6th ¼	¾	(40) 24	.020	50		600	120
9th 5/16	1	(55) 35	.029	34	6	1000	200
12th ⅜	1⅛	(65) 49	.041	24	5	1350	200
15th 7/16	1¼	(80) 63	.0525	19		1750	330
18th 9/16	1⅜	(80) 75	.0625	16		2250	450
21th ½	1½	90	.0750	13	4	2650	530
5/8	1¾	125	.104	9	7	3450	690
5/8	2	160	.133	7	6	4400	880
¾	2¼	200	.167	6		5400	1080
13/16	2½	234	.195	5	2	6500	1300
⅞	2¾	270	.225	4	5	7700	1540
1	3	324	.270	3	9	9000	1800

*The six smallest sizes are manufactured to weights approximately the same as the figures in parentheses above because they make more convenient coils for handling.

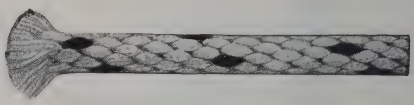
GALVANIZED ARC LAMP CORD

Diam. In.	Wt. Lb. Per Ft.	Breaking Stress in Lbs.	Construction	Price Per 100 Ft.
5/16	163	2000	9x7	$5.00
7/16	107	1530	9x4	3.50
¼	77	1125	9x4	2.75

SPOT CORD, ARC LAMP CHAIN, TWINE

SAMSON SPOT WATERPROOFED CORD

For Arc Lamp and Trolley Cord



For arc lamp cord, it acts as an insulator, and does not break without warning.

For Trolley Cord, especially for use with trolley catchers and retrievers, Spot Cord is extremely durable because of its smoothness of braid and uniformity of size.

Size No.	Diam. In.	Wt. Lb. Per Coils of 1200 Ft.	Size No.	Diam. In.	Wt. Lb. Per Coils of 1200 Ft.
8	¼	32	14	7/16	100
10	5/16	50	16	½	125
12	⅜	70	....	....	.....

AMERICAN GALVANIZED ARC LAMP CHAIN

Size No.	For Suspending	Tensile Strength Lbs.	Wt. Lbs. Per 1000 Ft.	Price Per 100 Ft.
31	Heavy Street Fixtures....	915	126¼	$8.50
33	Medium Street Fixtures..	725	110	8.25
35	Light Street Fixtures.....	550	75	7.50

Packed on reels, 500 or 1000 feet.

Galvanized Attachment Hook

Description	Price Per 1000
For No. 31 Chain	$60.00
For No. 33 Chain	60.00
For No. 35 Chain	40.00

Ring

Description	Price Per 1000
For No. 31 Chain	$90.00
For No. 33 Chain	50.00
For No. 35 Chain	30.00

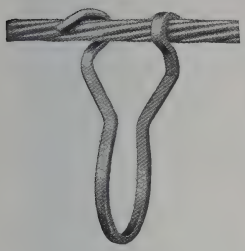
Connecting Link

Description	Price Per 1000
For No. 31 Chain, Per 1000 Sets	$38.00
For No. 33 Chain, Per 1000 Sets	38.00
For No. 35 Chain, Per 1000 Sets	30.00

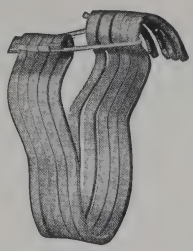
MARLIN TWINE

	Price Per Lb.
2-Ply	
In 1-pound Balls	$0.40
In 5-pound Balls	.40
3-Ply	
In 1-pound Balls	.40
In 5-pound Balls	.40

NATIONAL CABLE RINGS
IN THE HANDY FIVE CLUSTER



The Ring



The Handy Five Cluster

Easily and quickly placed on the messenger and once in position will not slip along or jump off, remaining rigid in position because of the "tension grip" design. National Rings are made from flat, high carbon steel wire with rounded edges. They are hot dipped galvanized, with an even deep coating of zinc assuring smoothness and long life of cable sheaths.

All National Rings are gathered in "Handy Five" Clusters for convenience in handling. This simple method of gathering prevents hooking together of rings and does away with all ground litter.

Galvanized Cable Rings

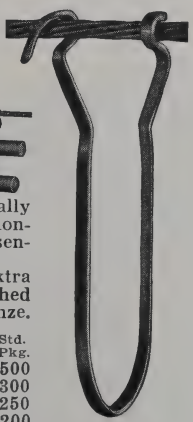
Size	For Cable Diam., In.	Approx. Ship. Wt. Lbs. Per 1000	Std. Pkg. Contains	Strand Size
1½"	½ to 1 3/16	47	1000	Made in
2" Light	13/16 to 1 13/16	66	500	all
2" Heavy	13/16 to 1 13/16	90	500	Strand
2½"	1 5/16 to 1 13/16	106	500	Sizes
3"	1 13/16 to 2¼	125	400	
3½"	2¼ to 2⅝	140	300	Specify
4"	2⅝ to 3	200	250	Size
4½"	3 to 3½	210	250	Desired

Copperweld Cable Rings

1½"	----------	43	1000	5/16 & ⅜
2"	----------	96	1000	5/16 & ⅜
2½"	----------	110	1000	⅜
3"	----------	125	1000	7/16
3½"	----------	140	1000	7/16

Rings can be furnished in Calsun bronze.

EXTRA LONG CABLE RINGS



Extra Long Rings are especially designed for hanging an additional cable on the existing messenger, as illustrated above.

Made in all Strand sizes. Extra long cable rings can be furnished in Copperweld and Calsun bronze.

Size In.	Length Under Strand	Approx. Ship. Wt. Lbs. Per M	Std. Pkg.
1½	4¾"	114	500
2	5¼"	170	300
2½	6¾"	216	250
3	7½"	255	200
3½	8 "	270	200

Specify size desired.

PREMAX METAL MARKERS
EMBOSSED METAL LETTERS AND FIGURES

Premax embossed aluminum individual letters and figures offer the utmost permanence and legibility in cut-out characters. Made of 99 per cent pure aluminum rolled especially for this purpose, they will neither rust, tarnish nor corrode. Being perfectly smooth, they do not catch or hold dirt.

Premax standard embossed aluminum letters and figures are made in the following sizes: 6, 4, 3, 2, 1½, 1, ¾, and ½ inches.

Also available in brass.

All prices per 1000 unless otherwise specified.

Size	Aluminum Plain Finish Figures	Aluminum Plain Finish Letters	Brass Unpolished Figures	Brass Unpolished Letters
½ inch Roman	$11.00	$13.00	$12.00	$18.00
¾ inch Roman	12.00	15.00	15.00	22.00
1 inch Roman	13.00	16.50	18.00	29.00
1½ inch Roman	14.00	19.00	24.00	36.00
1½ inch Gothic	14.00	.....	.....	.....
2 inch Roman	17.00	24.00	33.00	48.00
3 inch Roman	24.00	33.00	58.00	72.00
4 inch Roman	135.00	170.00	300.00	360.00
6 inch Roman	250.00	360.00	380.00	480.00

Standard packaging—100 per carton.

EMBOSSED ALUMINUM POLE TAGS

Style No. 12—½-Inch Letters, Plate Width ¾-Inch

For identification on poles or other properties, Premax Pole Tags are widely used by all types of public utilities. They are available in standard and special designs, and consist of raised letters embossed on pure aluminum plate. The above illustration shows a popular, standard design, but others can be quickly supplied to meet any need.

Design No.	Style	Dimensions, Inches: Hght. of Letters	Width of Tag	*Length per Letter
12	1-line	½	¾	.60
716	1-line	7/16	¾	.75
78	1-line	⅞	1¾	1.25
114	1-line	1¼	2¼	1.35
122	2-line	½ & ½	1¾	.60
762	2-line	7/16 & 7/16	1¾	.75
782	2-line	⅞ & ⅞	2¼	1.25
778	2-line	7/16 & ⅞	1¾	.75–1.25
787	2-line	⅞ & 7/16	1¾	1.25– .75
RR-122	2-line	½	1¾	1¾x6¼ long

Design No.	Prices per 1000 on Lengths Shown: 3"	4"	5"	6"	7"	8"
12	$19.00	$22.00	$24.50	$26.50	$29.00	$31.50
716	19.00	22.00	24.50	26.50	29.00	31.50
78	27.50	31.00	34.50	38.00	41.50	45.00
114	29.00	33.50	38.00	43.00	48.00	53.00
212	29.00	32.50	36.00	40.00	44.00	48.00
762	29.00	32.50	36.00	40.00	44.00	48.00
782	30.00	35.00	40.00	45.00	50.00	55.00
778	29.00	32.50	36.00	40.00	44.00	48.00
787	29.00	32.50	36.00	40.00	44.00	48.00
RR-122	High voltage tag, $40.00.					

*To determine length of tag needed for any specified lettering, multiply total number of letters by the figures in this column. Periods or spaces, if required, equal one-half the width of letter.

Longer or shorter lengths, vertical tags, and special designs, quoted on request.

GALVANIZED STEEL STRAND

STANDARD STEEL STRAND

Single and Double Galvanized

Seven Steel Wires Twisted Into a Single Strand

Diam. In.	Size of Wires	Wt. Per 1000 Ft., Lbs.	Strength in Lbs.	Price Per 100 Ft.
1/2	8	517	7400	**$5.50**
7/16	9½	399	5700	**4.50**
3/8	11	273	4250	**3.50**
5/16	12	205	3200	**2.50**
1/4	14	121	1900	**1.75**
3/16	16	72.9	1150	**1.25**
5/32	17	51.3	870	**1.15**

SIEMENS-MARTIN STRAND

Double Galvanized

Siemens-Martin strand affords greater strength than standard quality and is used to sustain telephone cables, and for other purposes of character.

Seven Steel Wires Twisted Into a Single Strand

Diam. In.	Size of Wires	Wt. Per 1000 Ft., Lbs.	Strength in Lbs.	Price Per 100 Ft.
1/2	8	517	12100	**$5.25**
7/16	9½	399	9350	**4.30**
3/8	11	273	6950	**3.25**
5/16	12	205	5350	**2.50**
9/32	13	164	4250	**2.05**
1/4	14	121	3150	**1.70**
3/16	16	72.9	1900	**1.35**

HIGH STRENGTH STRAND

Double Galvanized

Seven Steel Wires Twisted Into a Single Strand

Diam. In.	Size of Wires	Wt. Per 1000 Ft., Lbs.	Strength in Lbs.	Price Per 100 Ft.
1/2	8	517	18800	**$7.25**
7/16	9½	399	14500	**6.00**
3/8	11	273	10800	**4.40**
5/16	12	205	8000	**3.20**
1/4	14	121	4750	**2.25**
3/16	16	72.9	2850	**1.80**

EXTRA HIGH STRENGTH STRAND

Double Galvanized

Seven Steel Wires Twisted Into a Single Strand

Diam. In.	Size of Wires	Wt. Per 1000 Ft., Lbs.	Strength in Lbs.	Price Per 100 Ft.
1/2	8	517	26900	**$8.80**
7/16	9½	399	20800	**7.20**
3/8	11	273	15400	**5.25**
5/16	12	205	11200	**4.25**
1/4	14	121	6650	**2.85**
3/16	16	72.9	3990	**2.40**

3-PLY TWISTED GUY WIRE

Double Galvanized

For special purposes the above strand is made of the various sizes and grades of wire used in different grades of Strand, namely: Siemens-Martin; High Strength; Extra High Strength.

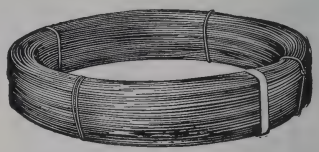
Prices quoted on application and depend on quantity wanted, way put up, etc. In writing for prices give full particulars.

All Strand is tested and inspected before leaving factory and is guaranteed to conform with all standard specifications.

In ordering, special care should be taken to specify kind wanted, size or length of reels or coils. If Standard Strand, whether single or double galvanized.

TELEPHONE AND TELEGRAPH WIRE

EXTRA DOUBLE GALVANIZED



Double galvanized telephone and telegraph wire is drawn from the highest grade material of special analysis galvanized to insure a wire with a maximum resistance to corrosion due to the superior adhesion of the pure zinc.

Every coil of wire is guaranteed to conform to all standard specifications, to meet the most exacting conditions and to give complete satisfaction.

"EXTRA BEST BEST" (E.B.B.) is highest in electrical conductivity, having a range of electrical resistance of 4700 to 5000 mile ohms.

"BEST BEST" (B.B.) Slightly higher in resistance than E.B.B. but combines conductivity with tensile strength to make a very popular grade, having a maximum electrical resistance of 5600 mile ohms.

"STEEL." This grade is designed for short-line service where electrical conductivity can be sacrificed for tensile strength. Maximum resistance 6500 mile ohms.

All above grades are galvanized under the same improved process.

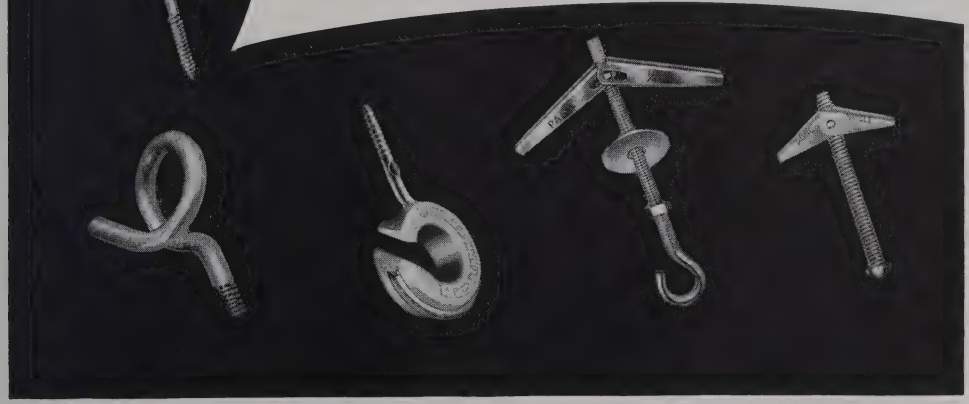
The following table gives the weight in pounds per mile, together with the breaking strain and resistance of telephone and telegraph wire.

No.	Diam. In.	Wt. Lbs. Per Mile	Put up in Bundles of	Approx. Breaking Strain in Pounds E.B.B.	B.B.	STEEL
4	.238	811	¼ mile	2,028	2,271	2,433
6	.203	590	⅓ mile	1,475	1,652	1,770
8	.165	390	½ mile	975	1,092	1,170
9	.148	314	½ mile	785	879	942
10	.134	258	½ mile	645	722	774
11	.120	206	½ mile	515	577	618
12	.109	170	½ mile	425	476	510
14	.083	99	½ mile	247	277	297

No.	Diam. In.	Wt. Lbs. Per Mile	Put up in Bundles of	Average Resist. in Ohms at 68° F. E.B.B.	B.B.	STEEL
4	.238	811	¼ mile	5.98	7.15	8.32
6	.203	590	⅓ mile	8.22	9.83	11.44
8	.165	390	½ mile	12.43	14.87	17.31
9	.148	314	½ mile	15.44	18.47	21.50
10	.134	258	½ mile	18.79	22.48	26.16
11	.120	206	½ mile	23.54	28.16	32.77
12	.109	170	½ mile	28.52	34.12	39.71
14	.083	99	½ mile	48.98	58.59	68.18

Prices quoted on application.

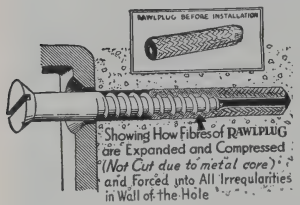
miscellaneous hardware



RAWLPLUGS

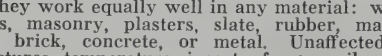
FIBRE ANCHORS FOR USE IN ANY MATERIAL WITH WOOD OR LAG SCREWS

Holds Screws Fast


RAWLPLUG BEFORE INSTALLATION
Showing How Fibres of RAWLPLUG are Expanded and Compressed (Not Cut due to metal core) and Forced into All Irregularities in Wall of the Hole

The Rawlplug has a high compression value. The hole, screw, and Rawlplug are practically the same size, therefore the fibres must be compressed when screw enters Rawlplug. Due to the metal core, the threads of the screw do not cut the fibres of the plug, but instead thread the metal core, making it possible to unscrew and replace the screw.

The fibre construction of the Rawlplug being flexible permits the plug to conform to any irregularities of the hole under compressive action of screw. Thus the entire length and circumference of plug grips the full surface of hole. Because of this "elastic compression" shock and vibration have no effect on the gripping power of Rawlplugs.



They work equally well in any material: wood, glass, masonry, plasters, slate, rubber, marble, tile, brick, concrete, or metal. Unaffected by moistures, temperature, insects, fungus, vibration, or shock.

RAWLPLUGS CONTRACTORS' OUTFIT

The ideal outfit for superintendents of office buildings, institutions, hotels, apartments, maintenance engineers in industrial plants and all contractors. Complete with assortments of popular size Rawlplugs, Rawl-Grips, Rawl-Twist drills, Rawldrills, Toolholders, Tool Ejector and samples of other Rawl Products all conveniently placed in a heavy gauge steel mechanic's tool box.

List price complete **$40.00**

(Total List value of contents $49.50.)

RAWLPLUGS

FOR USE WITH STANDARD WOOD SCREWS

For Wood Screw		Use Rawlplug		Price Per 100	Lbs. Approx. Wgt. per Std.Pkg. (12 Boxes)	Use M/T or R/T Rawldrill		Use Tool-Holder No.	Use Twist Drill Size
Sizes	Lgths.	Size	†Lgh.			No.	Dia.		
5-6	1″ 1¼″ 1½″	6	⅝″ ¾″ 1″	$2.70 2.80 3.00	1 1 1½	6 $11.50 Per Doz.	11/32″	14 $24.00 Per Doz.	11/32″
7-8	1″ 1¼″ 1½″ 2″ 2½″	8	⅝″ ¾″ 1″ 1½″	3.10 3.20 3.40 3.80	1½ 1½ 2 2¼	8 $11.50 Per Doz.	11/32″	14 $24.00 Per Doz.	No. 15
9-10	1½″ 1½″ 1¾″ 2″ 2½″	10	¾″ 1″ 1¼″ 1½″	3.40 3.80 4.20 4.60	1¾ 2½ 2¾ 3¼	10 $11.50 Per Doz.	3/16″	14 $24.00 Per Doz.	No. 10
11-12	1½″ 1½″ 1¾″ 2″ 2½″	12	¾″ 1″ 1¼″ 1½″	4.20 4.60 5.00 5.40	2½ 3½ 4¾ 5½	12 $11.50 Per Doz.	¼″	14 $24.00 Per Doz.	¼″
* 14 or ¼″ lag screw	1½″ 1¾″ 2″ 2½″ 3″ 3½″	14	1″ 1¼″ 1½″ 2″	5.40 6.00 6.60 7.80	4½ 5½ 6 8	14 $12.50 Per Doz.	11/32″	14 $24.00 Per Doz.	11/32″
* 16 or ⅛″ lag screw	1½″ 2″ 2½″ 3″ 3½″	16	1″ 1½″ 2″	6.10 7.60 9.10	2½ 3¾ 5	16 $13.60 Per Doz.	5/16″	20 $30.00 Per Doz.	5/16″
* 20 or ⅜″ lag screw	1½″ 2″ 2½″ 3″ 3½″	20	1″ 1½″ 2″	9.00 11.00 13.00	3½ 5½ 7½	20 $15.70 Per Doz.	3/16″	20 $30.00 Per Doz.	3/16″

Sizes Nos. 6-14 inclusive, packed 100 to a box.
Sizes Nos. 16-20 packed 50 to a box.

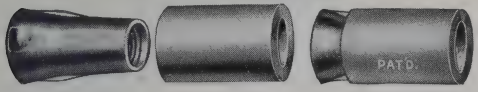
FOR USE WITH LAG SCREWS

For Lag Screw		Use Rawlplug		Price Per 100	Lbs. Approx. Wgt. Per Std. Pkg. (12 Boxes)	‡Rawl-plugs Packedin Boxes of	Use Rawl-drill Size	Use Twist Drill Size
Size	Lengths	Size	Lgth.†					
⅜″	2½″ 3″ 3½″ 4″ 4½″ 5″ 5½″ 6″	⅜	1½″ 2″ 2½″ 3″	$19.00 20.00 21.00 22.00	3½ 4½ 5½ 6½	25	▲ 7/32″	7/32″
7/16″	2½″ 3″ 3½″ 4″ 4½″ 5″ 5½″ 6″	7/16	1½″ 2″ 2½″ 3″	26.00 27.00 28.00 29.00	4½ 4¾ 5½ 7½	25	9/32″	9/32″
½″	3½″ 4″ 4½″ 5″ 5½″ 6″	½	2″ 2½″ 3″	32.00 33.00 34.00	7½ 8½ 10	25	5/16″	5/16″
5/8″	4½″ 5″ 5½″ 6″ 7″	5/8	2½″ 3″ 3½″	38.00 39.00 40.00	11 13 15	25	¾″	¾″

*{For ¼ ? Lag Screw use No. 14 or 16 Rawlplug.
{For ⅛″ Lag Screw use No. 20 Rawlplug.
▲For 7/32″ M/T and ½″, 5/8″, ¾″ R/T Rawldrills use No. 20 Holder.
†Prices quoted upon request for any size and length not shown above.
‡Standard Package contains one dozen boxes of Rawlplugs of same size and length or one dozen M/T or R/T Rawldrills or ½ dozen Holders of the same size.

ACKERMAN-JOHNSON EXPANSIVE SCREW ANCHORS

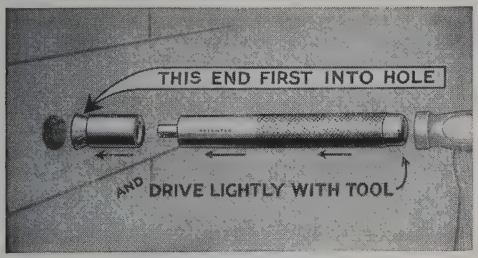
For attaching fixtures or wiring to any hard surface as brick, concrete, stone or marble, slate, etc.



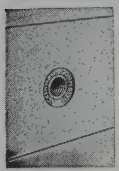
Anchor Nut — Expansive Sleeve — Anchor Assembled

Consists of a deep nut of conical design with lead-alloy expansible sleeve; factory assembled to be handled as one piece. Threaded for machine screws or bolts.

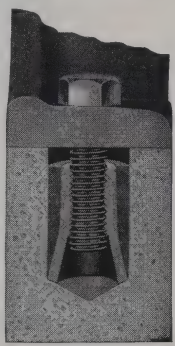
Operation



The sleeve expands over tapered formations of the nut against all sides of hole, giving perfect holding contact thruout its length and circumference. These anchors are installed completely before the work is attached. When set in good masonry their holding power will exceed the tensile strength of screws or bolts to be used with them. For any diameter of screw or bolt, specify the corresponding size and anchor from the first column of list.



Anchor Installed

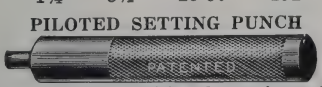


Cross section of anchor installed with work attached.

Anchors — Without Screws

Size No. and Threads Per Inch	Minimum Dimens. of Holes Required Diam.	Depth	Standard Quantity Per Box	Shpg. Wt. Lbs. Per 100	List Price Per 100
6x32	¼"	⅜"	50-100	⅞	$6.00
8x32	5/16"	½"	50-100	1⅓	6.50
10x24	⅜"	⅝"	50-100	2⅝	7.50
12x24	7/16"	¾"	50-100	3¾	9.50
¼"x20	½"	⅞"	50-100	5¼	11.00
5/16"x18	⅝"	1"	50-100	9	15.00
⅜"x16	¾"	1¼"	50-100	14¼	20.00
7/16"x14	⅞"	1½"	50-100	21¾	26.00
½"x13	⅞"	1½"	50-100	21½	26.00
⅝"x11	1⅛"	2"	50-100	46	50.00
¾"x10	1¼"	2½"	50-100	64	75.00
⅞"x9	1½"	2¾"	25-50	110	120.00
1"x8	1¾"	3½"	25-50	192	180.00

PILOTED SETTING PUNCH



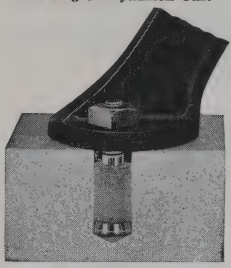
Included without additional cost in each box of anchors.

ACKERMAN-JOHNSON STUD TYPE EXPANSION BOLTS

For fastening to concrete, brick, stone, etc.

With Single Expansion Unit

With Two Expansion Units



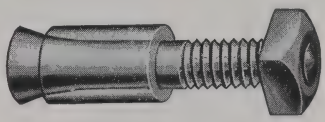
Bolt installed; Expansion completed, and fixture attached.

The stud type expansion bolt (single) consists of bolt with special, tapered head, a lead-alloy expansible unit and nut. When installed with tool shown below the threaded end of bolt protudes and fixture may be secured with nut.

When set in good masonry the holding strength of single unit is about equal to the tensile strength of bolt.

However additional units may be used on the larger sizes for extra heavy duty or where the greatest possible safety is desired as for anchorage of heavy power equipment, street lamp or signal standards, etc.

STUD TYPE EXPANSION BOLTS COMPLETE



With Single Unit and Square Nut

List Per Hundred

Diam. of Bolt Thread	¼"	5/16"	⅜"	½"		5/8"		¾"		1"
Length	Galv.	Galv.	Galv.	Not Galv.	Galv.	Not Galv.	Galv.	Not Galv.	Galv.	Not Galv.
1¼"	9.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
1½"	9.30	11.00	.....	.....	.....	.....	.....	.....	.....	.....
1¾"	9.40	.....	15.20	.....	.....	.....	.....	.....	.....	.....
2"	9.50	11.40	15.50	.....	.....	.....	.....	.....	.....	.....
2¼"	.....	.....	15.80	.....	.....	.....	.....	.....	.....	.....
2½"	9.70	11.80	16.10	29.00	33.00	.....	.....	.....	.....	.....
3"	9.90	12.20	16.70	30.50	35.00	.....	.....	.....	.....	.....
3½"	10.10	12.60	17.30	32.00	37.00	53.00	60.00	.....	.....	.....
4"	10.40	13.00	18.00	33.50	39.00	55.00	63.00	71.00	84.00	.....
4½"	.....	.....	18.70	.....	.....	.....	.....	.....	.....	.....
5"	.....	14.00	19.40	37.00	43.00	60.00	69.00	79.00	94.00	.....
6"	.....	.....	20.10	40.50	47.00	65.00	75.00	87.00	104.00	212.00
7"	.....	.....	.....	44.00	51.00	.....	.....	.....	.....	221.00
7½"	.....	.....	.....	.....	.....	72.00	84.00	99.00	119.00	.....
8"	.....	.....	21.00	47.50	55.00	.....	.....	.....	.....	230.00
9"	.....	.....	.....	.....	.....	79.00	93.00	111.00	134.00	.....
10"	.....	.....	.....	54.00	63.00	.....	.....	119.00	144.00	248.00
10½"	.....	.....	.....	.....	.....	86.00	102.00	123.00	149.00	.....
12"	.....	.....	.....	61.00	71.00	93.00	111.00	135.00	164.00	266.00
15"	.....	.....	.....	72.00	85.00	108.00	130.00	.....	.....	293.00
20"	.....	.....	.....	87.00	105.00	.....	.....	.....	.....	.....
Extra Units	.....	.....	12.00	22.00	.....	38.00	.....	60.00	.....	120.00

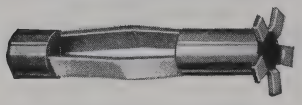
Minimum Holes Required

Diam. of hole	⅜"	½"	5/8"	¾"	1"	1⅛"	1¼"
Depth 1 unit	¾"	1"	1⅛"	1½"	1¾"	2¼"	3"
Depth 2 units	.....	.....	2¼"	3"	3½"	4¼"	5¾"

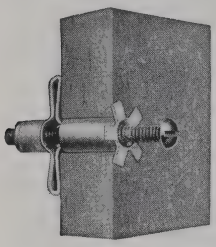
SETTING TOOL

Included with no added cost with each 50 or 100 bolts.

ACKERMAN-JOHNSON TOGGLE SCREW ANCHORS



For attaching fixtures of every kind to Hollow Tile — Lath — Wall Board — Gypsum (hollow or solid) — Sheet Metal, etc.



When installed with tool — a super-strong anchorage is formed to which any object may be attached with a machine screw.

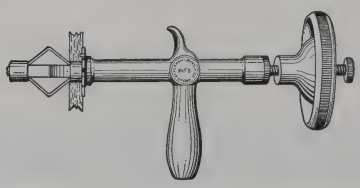
List Prices Without Screws In Steel — Cadmium Plated

For Screw Size	No. of Wings	Length to Specify	For Wall Thickness	Shpg. Wt. Lbs. Per 100	Price Per 100
Diam. of Holes to Drill, 3/8-Inch					
8x32	4	Ex. Short	0 to 1/16"	1½	$12.50
8x32	2	Short	3/16" to 5/8"	1½	13.00
8x32	4	Short	3/16" to 5/8"	2	13.00
8x32	2	Long	5/8" to 1¼"	2¼	13.50
8x32	4	Long	5/8" to 1¼"	2½	13.50
Diam. of Holes to Drill, 7/16-Inch					
10x24	4	Ex. Short	0 to 3/16"	2¼	13.50
10x24	2	Short	3/16" to 5/8"	2½	14.00
10x24	4	Short	3/16" to 5/8"	2¾	14.00
10x24	2	Long	5/8" to 1¼"	3¼	14.50
10x24	4	Long	5/8" to 1¼"	3½	14.50
10x24	2	Ex. Long	1¼" to 1¾"	3¾	15.00
Diam. of Holes to Drill, 11/16-Inch					
¼"x20	4	Ex. Short	0 to 3/16 1/4	2½	14.50
¼"x20	2	Short	3/16" to 5/8"	3¼	15.00
¼"x20	4	Short	3/16" to 5/8"	3¼	15.00
¼"x20	2	Long	5/8" to 1¼"	4¼	15.50
¼"x20	4	Long	5/8" to 1¼"	4¼	15.50
¼"x20	2	Ex. Long	1¼" to 1¾"	5¾	16.00

Setting Tool for No. 8x32 or No. 10x24..each $2.50
No. ¼"x20 ..... each 3.00
Extra Draw Spindle for No. 8x32 or
No. 10x24 ..... each .60
No. ¼"x20 ..... each .90

When ordering Toggle Screw Anchors, please specify from the first three columns.

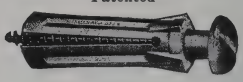
SETTING TOOL



The Toggle-Screw-Anchor is easily "set" with this speedy but inexpensive tool.

DIAMOND MULTI-SIZE SCREW ANCHORS

Patented



Designed to accommodate in one anchor several diameters of wood screws. The purpose is to reduce the number of anchors required to accommodate all sizes of screws. They are made in several lengths, covering the majority of uses.

Cat. No.	Size *	Drill Size	Shpg. Wt. Lbs. Per 100	Price Per 100
5212	6– 8 x ¾	¼	1	$5.00
5216	6– 8 x 1	¼	1⅜	5.30
5224	6– 8 x 1½	¼	1¾	5.60
5312	10–14 x ¾	5/16	1½	5.60
5316	10–14 x 1	5/16	1¾	5.60
5324	10–14 x 1½	5/16	2½	8.00
5516	16–18 x 1	3/8	2¾	6.25
5524	16–18 x 1½	3/8	4	9.00
5628	20–24 x 1¾	7/16	5¼	10.00

Packed 100 to a box.
*First two numbers show standard size of wood screws which can be used. Last number shows length of anchor.

DIAMOND CALKING ANCHORS

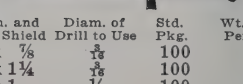
Cat. No.	Size	Drill Size	Length Inches	Wt. Lbs. Per 100	Price Per 100
3020	6–32	¼	3/8	¾	$6.00
3025	8–32	5/16	½	1½	6.50
3030	10–24	3/8	5/8	2	7.50
3035	12–24	7/16	¾	3½	9.50
3040	¼–20	½	⅞	5½	11.00
3050	5/16	5/8	1	10½	15.00
3060	3/8	¾	1¼	16	20.00
3070	7/16	⅞	1½	21	26.00
3080	1/2	⅞	1½	21	26.00
3100	5/8	1⅛	2	41	50.00
3120	3/4	1¼	2¼	64	75.00

Packaged—6/32 to 12-24—100 in box. ¼-20 to ¾—50 in box. One calking tool in each box.

DIAMOND HAMMER DRIVE ANCHORS

D H D HAMMER DRIVE ANCHORS

Patented



Cat. No.	Diam. and Lgth. Shield	Diam. of Drill to Use	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
4314	1/4 x 7/8	3/8	100	1	$8.00
4320	3/8 x 1¼	3/8	100	1⅛	9.00
4416	¼ x 1	¼	100	1½	10.00
4420	¼ x 1¼	¼	100	2	11.00
4424	¼ x 1½	¼	100	2⅛	12.00
4520	5/16 x 1¼	5/16	100	2¾	14.00
4528	5/16 x 1¾	5/16	100	3½	16.00
4536	5/16 x 2¼	5/16	100	4½	18.00
4544	5/16 x 2¾	5/16	100	5	20.00
4632	3/8 x 2	3/8	100	6½	20.00
4652	3/8 x 3¼	3/8	100	8¼	25.00
4836	½ x 2¼	½	50	11½	30.00
4856	½ x 3½	½	50	15½	35.00

Holds a greater load when fastened to stone than a wood screw of same diameter screwed into wood. No special skill or tools needed. For attaching trim, partitions, flooring and fixtures to concrete structures. Heavily-galvanized nails are supplied with shields, packed in the same container.

PAINE LAG SCREW EXPANSION SHIELDS

For Use in Concrete, Marble, Tile, Slate, Brick, Stone and Other Materials

Installed Without A Setting Tool

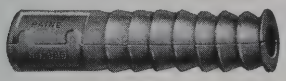


Fig. 980

Standard Packing Unit—1/4, 5/16, 3/8, 7/16 and 1/2 in. in boxes of 50; 5/8 and 3/4 in. in boxes of 25.

Specifications—Shields only.

Screw Size	Price Per 100	Length		Drill Hole	Wt. Lbs. Per 100		Threads per Inch
		Long	Short		Long	Short	
1/4	**$15.00**	1½	1	½	4	3	10
5/16	**18.00**	1¾	1	9/16	6	4	9
3/8	**25.00**	2⅝	2	5/8	10½	8½	7
1/2	**38.00**	3⅜	2	¾	17	12	6
5/8	**45.00**	3⅜	2	⅞	26	15	5
3/4	**65.00**	3⅜	2	1⅛	34	23	4½

PAINE MACHINE BOLT SHIELDS

For Use in Concrete, Marble, Tile, Slate, Brick, Stone and Other Materials

Installed Without A Setting Tool

SINGLE MACHINE BOLT SHIELDS

Fig. 970

Standard Packing Unit—1/4, 5/16, 3/8, 7/16 and 1/2 in. in boxes of 50; 5/8 and 3/4 in. in boxes of 25.

Prices do not include bolts.

Bolt Size	Price Per 100	Length of Shield	Wt. Lbs. Per 100	Drill Hole
1/4	**$15.00**	1¾	4	7/16
5/16	**18.00**	2¼	7½	½
3/8	**25.00**	2¾	12	11/16
1/2	**38.00**	3	16½	⅞
5/8	**45.00**	3⅛	23	1
3/4	**65.00**	4½	29	1⅛
1	**110.00**	5	75	1⅝

DOUBLE MACHINE BOLT SHIELDS

Fig. 990

Standard Packing Unit—1/4, 5/16, 3/8, 7/16 and 1/2 in. in boxes of 50; 5/8 and 3/4 in. in boxes of 25.

Specifications, shields only.

Bolt Size	Price Per 100	Length of Shield	Wt. Lbs. Per 100	Drill Hole
1/4	**$15.00**	1½	5½	½
5/16	**18.00**	1¾	7½	9/16
3/8	**25.00**	2	12	¾
1/2	**38.00**	2½	18½	⅞
5/8	**45.00**	2¾	25	1
3/4	**65.00**	3⅝	48	1⅛

PAINE EXPANSION SCREW ANCHORS

For Use in Concrete, Stone, Marble, Tile, Slate and Other Materials—Furnished in Two Styles

"900" MACHINE SCREW TYPE

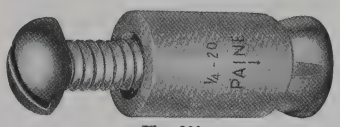


Fig. 900

Specification — Anchors only. Packed 50 in a box. Setting Tool furnished in every box.

Anchor Size No.	Price Per 100	Min. Dimens. of Holes Required Diam.	Depth	Wt. Lbs. Per 1000	Avg. Breaking Point Lbs.
6–32	**$6.00**	7/16	½	10	746
8–32	**6.50**	7/16	½	10	1034
10–24	**7.50**	⅝	⅝	20	1204
12–14	**9.50**	½	⅞	40	2252
¼–20	**11.00**	½	⅞	40	2620
5/16–18	**15.00**	⅝	1	76	3854
⅜–16	**20.00**	¾	1¼	126	4204
½–13	**26.00**	⅞	1½	204	5584
⅝–11	**50.00**	1⅛	1¾	375	10398
¾–10	**75.00**	1¼	2¼	640	12500
⅞– 9	**120.00**	1½	2¾	1100	14000
1– 8	**180.00**	1¾	3½	1920	16000

PAINE EXPANSION BOLT ANCHORS

BOLT AND NUT TYPE

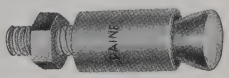


Fig. 910

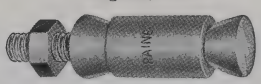


Fig. 911

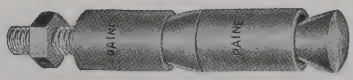


Fig. 915
(Complete with Bolt and Nut)

Bolt Diam.	Bolt Length	Drilling Diam.	Drilling Depth	Fig. 910 Price Per 100	Fig. 910 Shpg. Wt. Lbs. Per 1000	Fig. 911 Price Per 100	Fig. 911 Shpg. Wt. Lbs. Per 1000
	1½			**$8.20**	62	**$8.80**	72
	1¾			**8.35**	68	**8.95**	78
	2			**8.40**	70	**9.00**	80
1/4	2½	½	1	**8.65**	75	**9.25**	85
	3			**8.90**	80	**9.50**	90
	3½			**9.15**	85	**9.75**	95
	4			**9.40**	90	**10.00**	100
	2			**13.90**	150	**15.00**	170
	2½			**14.40**	156	**15.50**	176
	3			**14.90**	167	**16.00**	187
3/8	3½	⅝	1½	**15.40**	185	**16.50**	205
	4			**15.90**	203	**17.00**	223
	5			**16.40**	220	**17.50**	240
	6			**17.90**	260	**19.00**	280
	3			**31.00**	334	**34.00**	394
1/2	4	⅞	1⅝	**35.00**	383	**38.00**	443
	5			**39.00**	450	**42.00**	510
	6			**44.00**	500	**47.00**	560

Price on No. 915 for deep anchorage supplied upon request. Also can be furnished with lock nuts or lock washers. Prices on request.

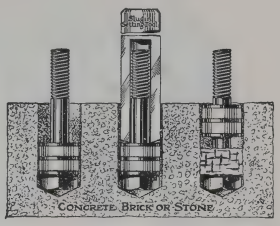
Packed 50 in box with set tool.

STAR SLUGIN BOLT ANCHORS

Solid Type

CAT. NO. 6800 BOLT ANCHORS

Complete Unit



Use of Slugin in Concrete

For use with standard machine bolts. Use hexagon-head bolts for ½-inch and larger. Made of lead alloy and hard iron rings. Each slug is a complete unit. Either end may be slipped on bolt as Slugin is alike on both ends. Expand each slug separately with Slugin setting tool or section of pipe.

Cat. No.	Bolt Size of Slug Inches	Diam. of Hole, In.	Std. Pkg.	Shpg. Carton	Wt. Lbs. Per 100	Price Per 100
6815	¼	½	100	500	5½	$8.00
6825	⅜	¾	100	500	7½	11.00
6835	½	1	50	250	16	18.00
6845	⅝	1⅛	50	250	22	24.00
6855	¾	1¼	25	125	25	35.00
6865	1	1¾	20	100	37	63.00

Shipping weight is for slugs only. Price above is for 100 slugs. Each slug is one complete unit.

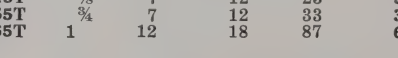
STAR SLUGIN NO. 6800T SETTING TOOL

Slugin setting tools are recommended for best results. Ordinary section of pipe may be used when tools are not available.

For Expanding Slugin

Cat. No.	Bolt Size Tool, In.	Depth Bore, In.	Lgth., In. Overall	Wt. Lbs. Per Doz.	Price Each
6815T	¼	3½	6	3½	$1.00
6825T	⅜	5	8	10½	1.20
6835T	½	6	10	18	1.70
6845T	⅝	7	12	23	3.00
6855T	¾	7	12	33	3.60
6865T	1	12	18	87	6.80

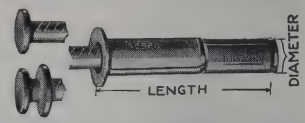
STAR TAMPIN TOOL—NO. 4000-T



One packed in each box of Tampins, no charge. The pilot of the Tampin Tool keeps the tool centered on the shield during installation.

STAR DRYVIN ANCHORS

HAMMER-DRIVE ANCHORS—CAT. NO. 3900



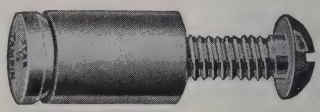
Rust-Proofed. Dryvins furnished regularly with single head nails. Dryvins with double head nails can be furnished, when ordered, in practically all sizes, no extra charge. All sizes show diameter and length of shield, not the nail. Furnished complete with nails.

Cat. No.	*Shield Inches	Load Lbs.	Std. Pkg.	Shpg. Carton	Wt. Lbs. Per 100	Price Per 100
3910	⅜ x ⅞	60	100	500	1	$8.00
3911	⅜ x 1¼	100	100	500	1½	9.00
3915	¼ x 1	200	100	500	2	10.00
3916	¼ x 1¼	250	100	500	2¾	11.00
3917	¼ x 1½	300	50	250	3	12.00
3920	⅜ x 1¼	250	50	250	4	14.00
3921	⅜ x 1¾	300	25	250	5	16.00
3923	⅝ x 2¼	300	25	250	6½	18.00
3924	⅝ x 2¾	300	25	250	7½	20.00
3926	⅝ x 1½	400	100	500	7	18.00
3927	⅝ x 2	450	25	250	8¼	20.00
3929	⅝ x 3¼	500	50	250	12	25.00
3935	½ x 1	200	100	500	9	25.00
3937	½ x 2¼	500	50	250	16	30.00
3938	½ x 2¾	550	50	250	19	32.00
3939	½ x 3½	600	50	250	23	35.00

*Indicates length of shield not the nail. Price is for shields complete with nails.

STAR TAMPIN

CAT. NO. 4000 FOR USE WITH MACHINE SCREWS OR BOLTS



With Closed Bottom Alloy Nut

For use with machine screws or bolts. Unequalled for electrical installations and all similar attachments to concrete, brick or stone.

Closed bottom prevents dust or any foreign matter from entering the nut and clogging threads during expansion — a time saver especially when working on floors and where the hole cannot be easily cleaned.

The special Tampin alloy sleeve, will enter all irregularities of the masonry hole and will not yield under a heavy load.

Cat. No.	Screw Size In.	Holes Required Diam.	Depth	Std. Pkg.	Shpg. Carton	Wt. Lbs. Per 100	Price Per 100
4006	6–32	⅛	½	50	1000	1	$6.00
4008	8–32	⅛	½	50	1000	1	6.50
4010	10–24	⅝	⅝	50	1000	2	7.50
4012	12–24	½	⅞	50	500	4½	9.50
4015	¼–20	½	⅞	50	500	4½	11.00
4020	⅜–18	⅝	1	50	250	7½	15.00
4025	⅜–16	¾	1¼	50	250	15	20.00
4030	⅜–14	⅞	1½	50	250	20½	26.00
4035	½–13	⅞	1½	50	250	20½	26.00
4045	⅝–11	1⅛	1¾	50	100	40	50.00
4055	¾–10	1¼	2¼	50	100	54	75.00

Price shown is for shields only.

Tampin tool furnished with these shields is illustrated and described in the preceding column. One packed in each box of Tampins, no charge.

STAR EXPANSION SHIELDS

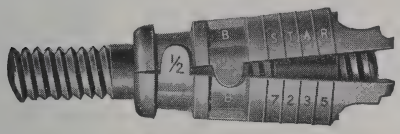
CAT. NO. 7100 SINGLE EXPANSION SHIELDS

Made of malleable iron. For use with machine bolts. A three way expansion shield, which permits the shield to conform to irregular holes, giving equal expansion in three directions—regardless of the shape of the hole. Form fitting lugs on bottom of the shield prevents the tapered nut from falling out and eliminates the possibility of the nut rotating in the shield during the expansion. This new shield gives satisfactory holding power in a wide range of hole sizes.

Cat. No.	*Diam. Bolt Inches	Size Shield Lgth. Inches	Size Shield Diam. Inches	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
7125	3/8	2	3/4	50	12	$25.00
7135	1/2	2 5/16	7/8	25	16	38.00
7145	5/8	2 3/4	1	25	26	45.00
7155	3/4	3 3/8	1 1/4	10	45	65.00

*Indicates diameter of bolt with which the shield is used. The size of shield shown is outside diameter and indicates size of drill required. Price is for shield without bolts.

CAT. NO. 7200 CLOSIN SHIELDS



Made of malleable iron. For use with machine bolts. Elliptical shaped nut gives greater range of expansion than old style; also prevents nut from turning in the shield. Threaded rod travels through nut, bears on bottom of shield, causing nut to move upward, thereby producing powerful expansion. Excellent for fastening threaded rods, pipe hangers, etc.

Closed End

Cat. No.	*Diam. Bolt Inches	Size Shield Lgth. Inches	Size Shield Diam. Inches	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
7215	1/4	1 3/8	1/2	50	4	$15.00
7220	5/16	1 5/8	5/8	50	7 1/2	18.00
7225	3/8	2 1/8	3/4	50	13	25.00
7235	1/2	2 1/2	7/8	25	18	38.00
7245	5/8	2 3/4	1	25	28	45.00
7255	3/4	4	1 1/4	10	57 1/2	65.00

*Indicates diameter of bolt with which the shield is used. The size of shield shown is outside diameter and indicates size of drill required. Price is for shield without bolts.

STAR EXPANSION SHIELDS

CAT. NO. 7000 DOUBLE EXPANSION SHIELDS

Made of malleable iron for use with machine bolts. A new style of double expansion shield, which embodies the following innovations; new locking lugs on nut and collar permit easy expansion and are engaged at all times in the internal grooves of the sides. Overlap spring holds shield together firmly—will not come apart with rough usage.

Cat. No.	*Diam. Bolt Inches	Size Shield Lgth. Inches	Size Shield Diam. Inches	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
+7015	1/4	1 5/8	1/2	50	4	$15.00
7020	5/16	1 7/8	5/8	50	7 1/2	18.00
+7025	3/8	2 1/8	3/4	50	12 1/2	25.00
+7035	1/2	2 3/8	7/8	25	18	38.00
+7045	5/8	2 7/8	1	25	25 1/2	45.00
7055	3/4	4	1 1/4	10	54 1/2	65.00
7060	7/8	4 1/2	1 1/2	10	103	95.00
7065	1	4 7/8	1 3/4	5	120	110.00

*Indicates diameter of bolt with which shield is used. The size of shield shown is outside diameter and indicates size of drill required. Price is for shield without bolts.

+Zinc alloy sides—100 per cent rust-proof.

CAT. NO. 3600 LOXIN EXPANSION SHIELDS

Single machine bolt type. Carry greater load, easier to install, than most expansion shields for use with machine bolts.

Long Standard Sizes

Cat. No.	*Diam. Bolt Inches	Size Shield Lgth. Inches	Size Shield Diam. Inches	Std. Pkg.	Wt.Lbs. Per 100	Price Per 100
3615	1/4	1 1/4	1/2	50	3 1/2	$15.00
†3616	1/4	2 1/2	1/2	50	6 1/2	15.00
3620	5/16	2	5/8	50	7	18.00
3625	3/8	2	5/8	50	7	25.00
3630	7/16	2 1/2	7/8	25	15	32.00
3635	1/2	2 1/2	7/8	25	15 1/2	38.00
3645	5/8	3	1	25	23 1/2	45.00
3655	3/4	3 1/2	1 1/8	10	32 1/2	65.00

Short Standard Sizes

3623	5/16	1 1/2	5/8	50	5 1/2	18.00
3628	3/8	1 1/2	5/8	50	6	25.00
3638	1/2	2	7/8	25	13 1/2	38.00
3648	5/8	2 1/2	1	25	20	45.00

*Indicates diameter of bolt with which shield is used. The size of shield shown is outside diameter and indicates size drill required. Price is for shield without bolts.

†Extra long.

When no length is specified long standard shield will be furnished.

DIAMOND EXPANSION SHIELDS

DIAMOND "P" LAG SCREW EXPANSION SHIELDS

Prices do not include the lag screws.

Series 1000 Short

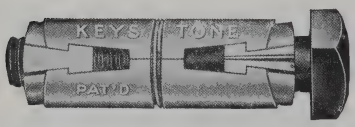
Cat. No.	Dia. of Lag	Lgth. Inches	Drill Size	No. Per Box	Shpg. Wt. Lbs. Per 100	Price Per 100
1004	¼	1	7/16	100	2	$15.00
1005	5/16	1	½	100	2½	18.00
1006	⅜	2	5/8	50	7½	25.00
1008	½	2	¾	50	10	38.00
1010	5/8	2	⅞	50	13	45.00
1012	¾	2	1⅛	25	21	65.00

Series 1100 Long

1104	¼	1½	½	100	4	15.00
1105	5/16	1¾	9/16	100	5	18.00
1106	⅜	2¾	5/8	50	11	25.00
1108	½	3½	¾	50	18	38.00
1110	5/8	3½	⅞	25	23	45.00
1112	¾	3½	1⅛	25	35	65.00
1114	⅞	5	1⅜	25	75	95.00
1116	1	5	1½	25	90	110.00
1120	1¼	8	1⅞	20	270	250.00

INTERLOCKING KEYSTONE EXPANSION SHIELDS

For Use With Machine Bolts



Double Type—Shields Only

Cat. No.	Bolt Dia.	Length Inches	Drill Size	No. Per Box	Shpg. Wt. Lbs. Per 100	Price Per 100
1404	¼	1½	½	100	4	$15.00
1405	5/16	1¾	9/16	100	6	18.00
1406	⅜	2	11/16	50	7	25.00
1408	½	2½	⅞	50	12	38.00
1410	5/8	2⅞	1	25	18	45.00
1412	¾	3¼	1⅛	25	35	65.00
1414	⅞	4	1½	25	85	95.00
1416	1	4¼	1⅝	25	100	110.00
1420	1¼	6	2⅛	20	240	250.00

Single Type—Shields Only

1504	¼	1⅜	½	100	3	15.00
1505	5/16	1⅜	9/16	100	4	18.00
1506	⅜	1⅝	11/16	50	9	25.00
1508	½	1⅞	⅞	50	14	38.00
1510	5/8	2	1	25	19	45.00
1512	¾	2¾	1 3/16	25	38	65.00

DIAMOND EXPANSION SHIELDS

SUPER-GRIP—STYLE A EXPANSION SHIELDS

For Machine Bolts

This expansion is known for its high holding power and is made of two metals, lead and brass, which are rust resistant.

May be used with or without setting tool.

Without Bolts or Screws

Diam. Bolt or Screw	Length of Shield	Diam. of Hole and Drill	Wt. Lbs. Per 100	Price Per 100
3/16	½	5/16	1.2	$10.00
8-32, 10-24				
¼	1⅛	7/16	3.8	15.00
12-24				
5/16	1¼	½	6	18.00
⅜	1¾	9/16	9	25.00
½	2¼	¾	21	38.00
5/8	2⅝	⅞	31	45.00
¾	3	1	42	65.00

SUPER-GRIP — STYLE B EXPANSION BOLTS

Patented

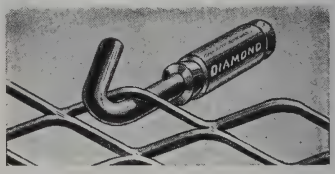
Bolt has tapered cone-shaped end, which expands the lead-alloy sleeve. Can be used with or without setting tool. Bolts and nuts are "Diamond" Intergalvanized. Sold complete only.

Prices per 100—Complete with Galvanized Bolts

Bolt Dia.	Drill Size	Length Inches 1½ Inch	2 Inch	2½ Inch	3 Inch
¼	7/16	$9.30	$9.50	$9.70	$9.90
5/16	½	--------	11.40	11.80	12.20
⅜	9/16	--------	--------	16.10	16.70
½	¾	--------	--------	--------	35.00
5/8	⅞	--------	--------	--------	57.00

Bolt Dia.	Drill Size	3½ Inch	4 Inch	5 Inch	6 Inch
⅜	9/16	$17.30	$18.00	$19.40	$20.10
½	¾	----------	39.00	43.00	47.00
5/8	⅞	----------	63.00	69.00	75.00
¾	1	----------	84.00	94.00	104.00

DIAMOND HOOK EXPANSION BOLTS



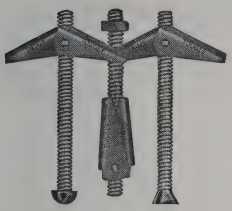
Diamond Hook Expansion Bolts supply a most positive attachment for suspending metal lath on walls, ceilings and floors.

Diam. Bolt	Size Drill to Use	Depth of Hole to Drill	Length of Hook Under Eye	Price Per 100
¼	½	1⅛	2	$8.25

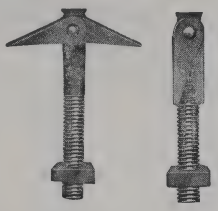
One calking tool furnished free with each 100 bolts. Made in other sizes to suit particular requirements. Prices on application.

PAINE SPRING WING TOGGLE BOLTS

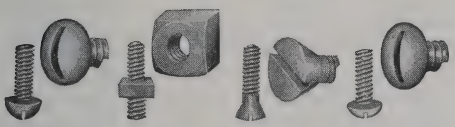
For Use in Hollow Materials Including Wood, Gypsum, Marble, Lath and Plaster, Tile and Sheet Rock



A B C
Fig. 123



Open Closed
Fig. 125



Style A Round Head — Style B Square Nut — Style C Flat Head — Button Head Style E

Specifications Fig. 123

Bolt Diam.	Bolt Length	Price per 100 All Steel	Wire Gauge Threads, per In.	Drill Hole In.	Spread of Wings In.	Wt. per 1000
	(6-32)x1¾	$6.60	6-32	7/32	1 5/16	14
	(6-32)x2	8.00	6-32	7/32	1 5/16	15
	(6-32)x3	9.00	6-32	7/32	1 5/16	19
1/8	(6-32)x3½	10.00	6-32	7/32	1 5/16	20
	(6-32)x4	10.00	6-32	7/32	1 5/16	21
	(6-32)x5	12.00	6-32	7/32	1 5/16	25
	(6-32)x6	12.50	6-32	7/32	1 5/16	29
	(8-32)x2	8.50	8-32	½	1 7/16	23
	(8-32)x3	9.50	8-32	½	1 7/16	28
8/32	(8-32)x4	10.00	8-32	½	1 7/16	31
	(8-32)x5	12.00	8-32	½	1 7/16	33
	(8-32)x6	12.50	8-32	½	1 7/16	35
	(10-24)x2	8.50	10-24	9/32	1 13/16	33
	(10-24)x2½	9.50	10-24	9/32	1 13/16	36
	(10-24)x3	9.50	10-24	9/32	1 13/16	38
3/16	(10-24)x3½	10.00	10-24	9/32	1 13/16	42
	(10-24)x4	10.00	10-24	9/32	1 13/16	45
	(10-24)x5	12.00	10-24	9/32	1 13/16	51
	(10-24)x6	12.50	10-24	9/32	1 13/16	58
	¼x2	9.00	¼-20	¾	2	58
	¼x2½	10.50	¼-20	¾	2	63
	¼x3	10.50	¼-20	¾	2	68
	¼x3½	11.00	¼-20	¾	2	73
1/4	¼x4	11.00	¼-20	¾	2	75
	¼x5	14.00	¼-20	¾	2	88
	¼x6	15.50	¼-20	¾	2	99
	¼x8	20.00	¼-20	¾	2	118
	¼x10	25.00	¼-20	¾	2	125
	5/16x3	16.00	5/16-18	⅞	2⅜	100
5/16	5/16x4	17.00	5/16-18	⅞	2⅜	118
	5/16x5	21.50	5/16-18	⅞	2⅜	135
	5/16x6	23.00	5/16-18	⅞	2⅜	115
	⅜x3	21.00	⅜-16	1	2¾	160
3/8	⅜x4	23.00	⅜-16	1	2¾	180
	⅜x5	28.50	⅜-16	1	2¾	205
	⅜x6	30.00	⅜-16	1	2¾	231
	½x4	40.50	½-12	1 1/16	4½	435
1/2	½x5	52.00	½-13	1 1/16	4½	460
	½x6	59.00	½-13	1 1/16	4½	500

Prices for Chrome Plated or Brass Toggle Bolts on application. All Toggle Bolts packed 50 to box. Except ½-inch are packed 25 to box.

All Toggle Bolts rust proofed.

PAINE SPRING WING TOGGLE BOLTS
RIVETED SPRING WING TOGGLE

Specifications Fig. 125

Bolt		Price Per 100	Drill Hole Inch	Spread of Wings	Wt. Lbs. Per 1000
5/16	5/16x3	$19.00	¾	2¼	100
	5/16x4	20.00	¾	2¼	115
	5/16x5	25.50	¾	2¼	135
	5/16x6	27.00	¾	2¼	155
3/8	⅜x3	21.00	¾	2¼	125
	⅜x4	23.00	¾	2¼	150
	⅜x5	28.50	¾	2¼	175
	⅜x6	30.00	¾	2¼	200

Prices for Chrome Plated or Brass Toggle Bolts on application. All Toggle Bolts packed 50 to box. Except ½-inch are packed 25 to box.

All Toggle Bolts rust proofed.

PAINE "PB" ONE-PIECE TOGGLE BOLTS

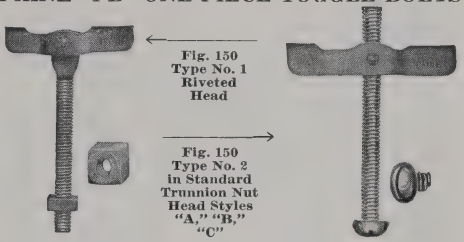


Fig. 150 Type No. 1 Riveted Head

Fig. 150 Type No. 2 in Standard Trunnion Nut Head Styles "A," "B," "C"

No. 1 Type has the toggle riveted to the flattened bolt end; and insures smooth, instantaneous action — up and down. One end of toggle is heavier than the other, causing the toggle to pivot to closed position.

No. 2 Type is balance weighted for easy pivot action, like No. 1; but the bolt attaches to the toggle by means of a trunnion nut at the toggle end. Packed 50 to a carton.

Bolt Diam.	Bolt Length	Price Per 100 Bolts All Steel	Gauge Threads per In.	Drill Holes No. 1 Type	Drill Holes No. 2 Type	Wing Spread	Wt. per 100
	(6-32)x3	$9.00	6-32	....	3/8	1½	3½
1/8	(6-32)x4	10.00	6-32	....	3/8	1½	4
	(6-32)x5	12.00	6-32	....	3/8	1½	4½
	(6-32)x6	12.50	6-32	....	3/8	1½	5
	(10-24)x3	9.50	10-24	½	9/16	1⅞	4½
3/16	(10-24)x4	10.00	10-24	½	9/16	1⅞	5
	(10-24)x5	12.00	10-24	½	9/16	1⅞	5¾
	(10-24)x6	12.50	10-24	½	9/16	1⅞	6½
	¼x3	10.50	¼-20	9/16	¾	2¼	7
1/4	¼x4	11.00	¼-20	9/16	¾	2¼	8½
	¼x5	14.00	¼-20	9/16	¾	2¼	10
	¼x6	15.50	¼-20	9/16	¾	2¼	10¾
	5/16x3	16.00	5/16-18	¾	⅞	2⅜	11½
5/16	5/16x4	17.00	5/16-18	¾	⅞	2⅜	13½
	5/16x6	23.00	5/16-18	¾	⅞	2⅜	16
	⅜x3	21.00	⅜-16	¾	13/16	2¾	14
3/8	⅜x4	23.00	⅜-16	¾	13/16	2¾	17½
	⅜x6	30.00	⅜-16	¾	13/16	2¾	24½

PAINE TOGGLE BOLT CLAMP

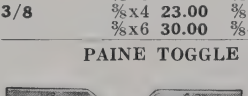
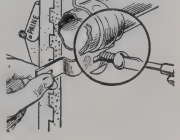


Fig. 4

One Clamp furnished Free with every Box of PAINE Toggle Bolts.

A simple, positive, fool-proof device that is saving mechanics hours of tedious, finger wearing labor. It holds toggle tight against inside of wall, floor or ceiling so bolt can be tightened with a screw driver.



PAINE SPECIAL HANGING AND FASTENING DEVICES

BRIDGE TOGGLE RINGS AND BOLTS

Fig. 123 Style "H"

Complete with Nut and Washer

Fig. 123 Style "J"

Fig. 123 Style H—Bridle Toggle Rings

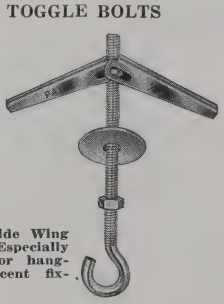
Bolt Diam.	Lgth.	Price Per 100	Length Thread	Drill Bolt	Opening of Eye	Inside Diam. of Eye
¼-20	x5¼	$21.60	4	3/4	5/16	5/8
¼-20	x6	21.60	4	3/4	5/16	1¼

Fig. 123 Style J—Eye Toggle Bolts

10-24	x3	14.50	2	9/16	3/16	5/16
10-24	x4	15.50	3	9/16	3/16	5/16
10-24	x5	16.00	4	9/16	3/16	5/16
10-24	x6	16.90	5	9/16	3/16	5/16
¼-20	x3	15.50	1¾	3/4	5/16	½
¼-20	x4	16.85	2¾	3/4	5/16	½
¼-20	x5	17.50	3¾	3/4	5/16	½
¼-20	x6	18.15	4¾	3/4	5/16	½

Fig. 175 SPECIAL TOGGLE BOLTS

Fig. 175 Style A, B and C



Extra Wide Wing Spread. Especially designed for hanging fluorescent fixtures.

Fig. 175 Style "J"

Fig. 175 Style "A," "B" and "C"

Bolt Diam.	Overall Length	Price Per 100	Wire Ga. Threads per In.	Drill Hole	Spread of Wings	Wt.Lbs. Per 100
10-24	x 3	$18.00	10-24	9/16	2⅝	3¾
10-24	x 4	19.00	10-24	9/16	2⅝	4½
10-24	x 5	20.00	10-24	9/16	2⅝	5⅛
10-24	x 6	21.00	10-24	9/16	2⅝	5¾
¼-20	x 3	22.00	¼-20	3/4	4	9¾
¼-20	x 4	23.00	¼-20	3/4	4	10¾
¼-20	x 5	24.00	¼-20	3/4	4	12
¼-20	x 6	25.00	¼-20	3/4	4	13

Fig. 175 Style "J"

Bolt Diam.	Overall Lgth.	Price Per 100	Length of Thread	Drill Hole	Diam. of Eye	Opening of Eye
10-24	x 4	$23.30	3	9/16	5/16	3/8
10-24	x 5	24.15	4	9/16	5/16	3/8
10-24	x 6	25.00	5	9/16	5/16	3/8
¼-20	x 4	28.60	2¾	3/4	½	5/16
¼-20	x 5	28.60	3¾	3/4	½	5/16
¼-20	x 6	32.00	4¾	3/4	½	5/16

PAINE SPECIAL HANGING AND FASTENING DEVICES

Fig. 250 FLATTENED END MACHINE SCREWS

Bolt Diam.	Lgth.	Price Per 100	Lgth. of Thread	Diam. Hole	Wt. Lbs. Per 1000
10-24	x 2	$4.95	1	5/32	11
10-24	x 3	5.70	2	5/32	17
10-24	x 4	6.75	3	5/32	23
10-24	x 5	8.00	4	5/32	29
10-24	x 6	8.65	5	5/32	35
¼-20	x 2	5.50	⅞	7/32	22
¼-20	x 3	6.30	1⅞	7/32	32
¼-20	x 4	7.55	2⅞	7/32	42
¼-20	x 5	8.80	3⅞	7/32	52
¼-20	x 6	9.60	4⅞	7/32	62
5/16-18	x 2	6.25	⅞	9/32	33
5/16-18	x 3	7.30	1⅞	9/32	50
5/16-18	x 4	8.50	2⅞	9/32	67
5/16-18	x 5	10.00	3⅞	9/32	83
5/16-18	x 6	11.25	4⅞	9/32	100
⅜-16	x 2	7.05	⅞	9/32	49
⅜-16	x 3	8.35	1⅞	9/32	72
⅜-16	x 4	10.00	2⅞	9/32	98
⅜-16	x 5	11.75	3⅞	9/32	122
⅜-16	x 6	13.25	4⅞	9/32	147
½-13	x 2	9.70	⅞	11/32	87
½-13	x 3	12.40	1⅞	11/32	131
½-13	x 4	15.50	2⅞	11/32	175
½-13	x 5	19.00	3⅞	11/32	219
½-13	x 6	23.00	4⅞	11/32	263

Fig. 275—EYE BOLTS

Fully Threaded

Bolt Diam.	O.A. Lgth.	Price Per 100	Lgth. of Thread	Dia. Eye	Opening of Eye
10-24	x 3	$6.90	2	5/16	3/16
10-24	x 4	8.25	3	5/16	3/16
10-24	x 5	8.95	4	5/16	3/16
10-24	x 6	9.65	5	5/16	3/16
¼-20	x 3	8.05	1¾	½	5/16
¼-20	x 4	9.40	2¾	½	5/16
¼-20	x 5	10.05	3¾	½	5/16
¼-20	x 6	10.70	4¾	½	5/16

COMBINATION PIPE OR CONDUIT HANGERS

Fig. 560

Ring for Pipe Size	Price Per 100	Lag Screw Used Diam.	Length	Wt. Lbs. Per 100
½	$18.75	¼	x 3	30
¾	20.75	⅜	x 3½	31¼
1	22.30	5/16	x 3½	31¼
1¼	23.00	5/16	x 3½	31¼
1½	23.60	5/16	x 3½	31¼
2	27.40	⅜	x 4	50
2½	34.85	⅜	x 4	75
3	37.70	⅜	x 4	81
3½	43.50	½	x 5	88
4	46.60	½	x 4	100

Sizes ½- to 2½-inch inclusive packed in boxes of 50 and 100. Larger sizes, bags of 25.

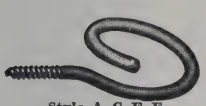
DIAMOND DRIVE RINGS
(Patented)

In this drive ring the striking end is elevated above the ring making it easy to drive without bending the ring or pin. Hot dip galvanized by Diamond Process. When installed in masonry use the size Diamond Hammer Drive Anchor shown. Order "less nails."

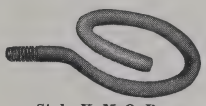
Cat. No.	Dia. Eye	Size Hammer Drive Anchor to Use	Wt. Lbs. Per 1000	Price Per 100
801	½	⅜ x ⅞	18	**$1.20**
804	⅝	¼ x 1	33	**2.20**
805	⅞	¼ x 1	64	**3.20**

Standard package, 100.

DIAMOND BRIDLE RINGS



Style A, C, E, F



Style K, M, Q, R

If wood screw type used in masonry use multi-size screw anchors.

Wood Screw Thread

Cat. No.	Style	Eye Inches	Wt. Lbs. Per 1000 Galv.	Wt. Lbs. Per 1000 Enam.	Price Per 100 Galv.	Price Per 100 Enam.
810	A	1⅝	110	150	**$ 7.50**	**$18.00**
812	C	1¼	95	125	**6.50**	**16.50**
814	E	⅝	35	50	**3.00**	**10.50**
816	F	3	300	335	**27.00**	**52.00**

Openings in all sizes ⅛ inch.

Machine Screw Thread — Galvanized

Cat. No.	Style	Eye In.	Thread	Wt. Lbs. Per 100	Price Per 100
821	K	¾	10–24	4	**$4.40**
823	M	1¼	10–24	6	**4.70**
825	Q	1¼	¼–20	9.5	**9.80**
827	R	1⅝	¼–20	11	**10.40**

DIAMOND INSULATED SCREW EYES

The porcelain ring has a diagonal opening which allows the easy insertion of wires and when pulled taut they cannot become released from the ring. The porcelain is glazed on the interior surface of the ring and on the surfaces of the slot. Screw eye is hot galvanized.

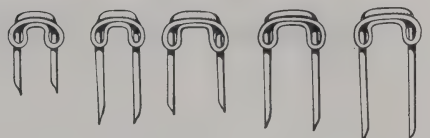
Cat. No.	Type	Eye In.	Shank Inches	Size Anchor	Wt. Lbs. Per 1000	Price Per 100
830	⅝-S	⅝	1	10-14x ¾	85	**$11.00**
831	⅝-L	⅝	2	10-14x1	95	**13.00**
832	1-S	1	1⅛	10-14x1	180	**18.50**
833	1-L	1	2⅛	10-14x1½	190	**20.00**

Put up in containers of 100.

Opening ⅜ inch in all sizes.

EMERSON INSULATED STAPLES

UNPAINTED STAPLES



No. 1 No. 3 No. 5 No. 6 No. 7

Packed 100 to the box, 10 boxes to the container, or 50 to the box, 20 boxes to the container.

Cat. No.	Size Inches	Packed in 100's 1000 to 9000	Packed in 100's 10,000 & Over	Packed in 50's 1000 to 9000	Packed in 50's 10,000 & Over
1	⅜ x ½	**$2.20M**	**$2.05M**	**$2.30M**	**$2.20M**
2	⅝ x ⅝	**2.20**	**2.05**	**2.30**	**2.20**
3	⅜ x ¾	**2.20**	**2.05**	**2.30**	**2.20**
5	¼ x ⅝	**2.20**	**2.05**	**2.30**	**2.20**
6*	¼ x ¾	**2.30**	**2.20**	--------	--------
7*	¼ x ⅞	**2.30**	**2.20**	--------	--------
10*	⅜ x ⅞	**3.05**	**2.70**	--------	--------
12*	½ x ⅞	**3.25**	**2.85**	--------	--------

*Nos. 6, 7, 10 and 12 Insulated Staples packed 100 to the box only.

50's packed in display containers.

PAINTED STAPLES

Furnished in three standard colors: white, buff and brown.

Packed 40 to the box, 25 boxes in display container (1000 staples).

Packed in any assortment of colors to make up the quantity.

Cat. No.	Size Inches	Prices Per 1000 1000 to 9000	Prices Per 1000 10,000 & Over
2	⅜ x ⅝	**$2.60**	**$2.30**
5	¼ x ⅝	**2.60**	**2.30**

Note—Orders for staples made up in any assortment painted or unpainted.

EMERSON ALL-METAL WIRING NAILS

Furnished in brown only. Packed 100 to the box, 10 boxes to container.

Size In.	Price per 1000 1000 to 9000	10M to 24M	24M to 49M	50M & Over
⅝	**$1.95**	**$1.80**	**$1.70**	**$1.65**
⅞	**2.05**	**1.90**	**1.80**	**1.75**

STEEL AND BRASS WOOD SCREWS

SLOTTED HEAD

Flat Head

Round Head

Oval Head

Length	Diameter	STEEL Price Per Gross	STEEL Style Head	STEEL Gross Per †Bundle	BRASS Price Per Gross	BRASS Style Head	BRASS Gross Per †Bundle
¼	2	$0.88	FR	10	$1.12	FR	10
⅜	2	.92	FR	10	1.22	FR	10
½	2	.96	FR	10	1.34	FR	10
⅝	2	1.00	FR	10	.....	.....	....
⅜	3	.92	FR	10	1.32	F	10
½	3	.96	FR	10	1.44	F	10
⅝	3	1.00	FR	10	.....	.....	....
¼	4	.92	FR	10	1.30	FR	10
⅜	4	.96	FRO	10	1.44	FRO	10
½*	4	1.00	FRO	10	1.58	FRO	10
⅝*	4	1.04	FRO	10	1.76	FRO	10
¾*	4	1.08	FRO	10	1.96	FRO	10
⅞	4	1.12	FR	10	2.16	F	10
1	4	1.20	FR	10	2.38	FR	10
1¼	4	1.42	F	10	.....	.....	....
⅜	5	.96	FR	10	.....	.....	....
½	5	1.00	FRO	10	1.74	FRO	10
⅝	5	1.04	FRO	10	1.96	FRO	10
¾	5	1.08	FRO	10	2.20	FRO	10
⅞	5	1.12	FR	10	2.42	F	10
1	5	1.20	FRO	10	2.64	FRO	10
1¼	5	1.42	F	10	.....	.....	....
⅜	6	1.00	FRO	10	1.75	R	10
½*	6	1.04	FRO	10	1.94	FRO	10
⅝*	6	1.08	FRO	10	2.20	FRO	10
¾*	6	1.12	FRO	10	2.45	FRO	10
⅞*	6	1.20	FRO	10	2.70	FRO	10
1*	6	1.32	FRO	10	2.98	FRO	10
1¼*	6	1.50	FRO	10	3.46	FRO	10
1½	6	1.66	FRO	10	4.08	FRO	10
½	7	1.08	FR	10	.....	.....	....
⅝	7	1.12	FR	10	.....	.....	....
¾	7	1.20	FRO	10	2.84	FR	10
⅞	7	1.28	FR	10	3.14	F	10
1	7	1.40	FRO	10	3.44	FRO	10
1¼	7	1.54	FRO	10	4.05	FRO	10
1½	7	1.70	FRO	10	4.68	FR	10
½	8	1.16	FR	10	2.50	FR	10
⅝	8	1.20	FRO	10	2.84	FRO	10
¾*	8	1.28	FRO	10	3.18	FRO	10
⅞*	8	1.36	FRO	10	3.52	FRO	10
1*	8	1.46	FRO	10	3.85	FRO	10
1¼*	8	1.62	FRO	10	4.52	FRO	10
1½*	8	1.80	FRO	10	5.20	FRO	10
1¾*	8	2.00	FR	10	5.88	FR	10
2*	8	2.20	FR	5	6.54	FRO	5
2½	8	2.62	FR	5	.....	.....	....
¾*	9	$1.42	FR	10	$3.52	FR	10
⅞	9	1.50	FR	10	3.92	F	10
1*	9	1.58	FR	10	4.30	FR	10
1¼*	9	1.74	FR	10	5.10	FR	10
1½	9	1.96	FR	10	5.88	FR	10
1¾	9	2.18	F	5	.....	.....	....
2	9	2.38	FR	5	.....	.....	....
2½	9	2.80	F	5	.....	.....	....
¾	10	1.58	FR	10	3.98	FR	10
⅞	10	1.66	FR	10	4.40	FR	10
1*	10	1.74	FRO	10	4.86	FRO	10
1¼*	10	1.92	FRO	10	5.65	FRO	10
1½*	10	2.12	FRO	10	6.58	FRO	10
1¾*	10	2.34	FRO	5	7.45	FR	5
2*	10	2.56	FRO	5	8.38	FRO	5
2¼	10	2.80	F	5	.....	.....	....
2½*	10	3.04	FR	5	10.38	FR	5
3	10	3.54	FR	5	.....	.....	.....
3½	10	4.92	F	2½	.....	.....	....
¾	12	1.80	FR	10	.....	.....	....
⅞	12	1.96	FR	10	.....	.....	....
1*	12	2.12	FR	10	6.25	FR	10
1¼*	12	2.30	FRO	10	7.28	FR	10
1½*	12	2.54	FRO	5	8.44	FR	5
1¾*	12	2.84	FRO	5	9.58	FR	5
2*	12	3.14	FRO	5	10.98	FR	5
2¼	12	3.46	F	5	.....	.....	....
2½*	12	3.78	FR	5	13.70	FR	5
3*	12	4.80	FR	5	15.98	F	5
3½	12	5.84	F	2½	.....	.....	....
1	14	2.62	FR	10	.....	.....	....
1¼	14	2.96	FR	5	9.32	F	5
1½*	14	3.30	FR	5	10.80	F	5
1¾*	14	3.64	FR	5	12.28	F	5
2*	14	3.98	FR	5	13.70	FR	5
2¼	14	4.34	F	1	.....	.....	....
2½*	14	4.84	FR	1	17.08	FR	1
3*	14	6.00	FR	1	20.34	F	1
3½	14	7.16	F	2½	.....	.....	....
4	14	8.00	F	½	.....	.....	....
1¼	16	3.92	F	5	.....	.....	....
1½	16	4.34	F	5	.....	.....	....
1¾	16	4.75	F	5	.....	.....	....
2*	16	5.16	F	1	.....	.....	....
2½*	16	6.34	F	1	21.34	F	1
3*	16	7.50	F	1	25.10	F	1
3½	16	8.35	F	2½	.....	.....	....
4	16	9.15	F	½	.....	.....	....
1½	18	5.30	F	5	.....	.....	....
2	18	6.40	F	1	.....	.....	....
2½	18	7.90	F	1	.....	.....	....
3	18	9.40	F	2½	.....	.....	....
3½	18	10.45	F	2½	.....	.....	....
4	18	11.70	F	½	.....	.....	....

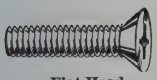
Note—This table of screw sizes is intended as a guide to the users of these screws. Diameters, lengths and head styles not regularly stocked will be available on order of a sufficient quantity. Letters in the vertical column indicate the style of head for a particular size of screw thus: F flat head, R round head, O oval head.

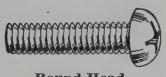
†Standard Bundles—Please order in multiples of Standard Bundle Quantities.

*Drive Screws—are made in flat head steel only in those sizes above marked with an asterisk (*). Use list prices for corresponding size steel wood screw.

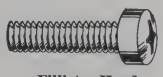
STEEL AND BRASS MACHINE SCREWS

PHILLIPS RECESSED HEAD


Flat Head


Round Head

Oval Head


Fillister Head

STEEL MACHINE SCREWS

Lgth. In.	Diam.	Price per Gross Plain Steel	Plated *Finishes
¼	5	$0.34	$0.35
5/16	5	.25	.27
3/8	5	.26	.28
7/16	5	.27	.29
½	5	.28	.30
5/8	5	.30	.32
¾	5	.32	.34
7/8	5	.34	.37
1	5	.36	.39
1⅛	5	.39	.42
1¼	5	.42	.45
¼	6	.33	.35
5/16	6	.26	.28
3/8	6	.27	.29
7/16	6	.28	.30
½	6	.29	.31
5/8	6	.31	.34
¾	6	.33	.36
7/8	6	.35	.38
1	6	.37	.41
1⅛	6	.40	.44
1¼	6	.43	.47
¼	8	.27	.29
5/16	8	.28	.30
3/8	8	.29	.31
7/16	8	.30	.32
½	8	.31	.33
5/8	8	.33	.36
¾	8	.35	.39
7/8	8	.37	.42
1	8	.40	.45
1⅛	8	.44	.49
1¼	8	.48	.54
1½	8	.55	.62
5/16	10	.30	.34
3/8	10	.31	.35
7/16	10	.32	.36
½	10	.33	.38
5/8	10	.35	.40
¾	10	.37	.43
7/8	10	.40	.46
1	10	.44	.51
1⅛	10	.48	.56
1¼	10	.53	.62
1½	10	.61	.71
1¾	10	.70	.81
2	10	.80	.92

Lgth. In.	Diam.	Price per Gross Plain Steel	Plated *Finishes
3/8	12	$0.33	$0.38
7/16	12	.35	.41
½	12	.37	.43
5/8	12	.40	.47
¾	12	.43	.51
7/8	12	.46	.55
1	12	.51	.61
1⅛	12	.56	.67
1¼	12	.62	.74
1½	12	.71	.84
1¾	12	.81	.95
2	12	.92	1.08
3/8	1/4	.38	.46
7/16	1/4	.41	.49
½	1/4	.44	.53
5/8	1/4	.48	.58
¾	1/4	.52	.63
7/8	1/4	.56	.68
1	1/4	.61	.74
1⅛	1/4	.66	.80
1¼	1/4	.72	.88
1½	1/4	.82	1.00
1¾	1/4	.93	1.13
2	1/4	1.05	1.27
2¼	1/4	1.18	1.42
2½	1/4	1.32	1.59
½	5/16	.86	1.01
5/8	5/16	.91	1.08
¾	5/16	.96	1.15
7/8	5/16	1.01	1.22
1	5/16	1.07	1.30
1⅛	5/16	1.14	1.39
1¼	5/16	1.21	1.48
1½	5/16	1.32	1.62
1¾	5/16	1.44	1.77
2	5/16	1.57	1.93
2¼	5/16	1.71	2.11
2½	5/16	1.86	2.30
2¾	5/16	2.02	2.51
3	5/16	2.20	2.74
¾	3/8	1.40	1.70
7/8	3/8	1.47	1.79
1	3/8	1.54	1.89
1⅛	3/8	1.62	2.00
1¼	3/8	1.70	2.11
1½	3/8	1.86	2.32
1¾	3/8	2.03	2.54
2	3/8	2.20	2.76
2¼	3/8	2.38	2.99
2½	3/8	2.56	3.23
3	3/8	2.94	3.73

BRASS MACHINE SCREWS

Lgth. In.	Diam.	Price per Gross Plain Steel	Plated *Finishes
¼	5	$0.36	$0.37
5/16	5	.36	.38
3/8	5	.38	.40
7/16	5	.40	.42
½	5	.42	.44
5/8	5	.46	.48
¾	5	.50	.53
1	5	.58	.61
1¼	5	.69	.73
¼	6	.35	.37
5/16	6	.38	.40
3/8	6	.41	.43
7/16	6	.44	.46
½	6	.47	.49
5/8	6	.52	.55
¾	6	.57	.60
7/8	6	.62	.65
1	6	.68	.72
1⅛	6	.74	.78
1¼	6	.81	.86
¼	8	.47	.50
5/16	8	.50	.53
3/8	8	.53	.56
7/16	8	.56	.59
½	8	.59	.63
5/8	8	.65	.69
¾	8	.71	.76
7/8	8	.78	.83
1	8	.85	.91
1⅛	8	.93	.99
1¼	8	1.02	1.08
1½	8	1.22	1.29
5/16	10	.62	.66
3/8	10	.66	.70
7/16	10	.70	.75
½	10	.74	.79
5/8	10	.81	.87
¾	10	.88	.94
7/8	10	.96	1.03
1	10	1.05	1.13
1⅛	10	1.15	1.24
1¼	10	1.27	1.37
1½	10	1.52	1.63
1¾	10	1.78	1.90
2	10	2.05	2.18

Lgth. In.	Diam.	Price per Gross Plain Steel	Plated *Finishes
3/8	12	$0.80	$0.86
½	12	.91	.98
5/8	12	1.00	1.07
¾	12	1.10	1.18
7/8	12	1.22	1.31
1	12	1.35	1.45
1¼	12	1.64	1.76
1½	12	1.94	2.07
2	12	2.59	2.76
3/8	1/4	1.05	1.13
7/16	1/4	1.11	1.20
½	1/4	1.18	1.28
5/8	1/4	1.31	1.42
¾	1/4	1.45	1.57
7/8	1/4	1.59	1.72
1	1/4	1.74	1.88
1¼	1/4	2.07	2.24
1½	1/4	2.42	2.61
1¾	1/4	2.78	2.99
2	1/4	3.15	3.38
2¼	1/4	3.53	3.79
2½	1/4	3.92	4.21
½	5/16	1.95	2.11
5/8	5/16	2.16	2.34
¾	5/16	2.38	2.58
7/8	5/16	2.61	2.83
1	5/16	2.85	3.09
1¼	5/16	3.36	3.64
1½	5/16	3.88	4.20
1¾	5/16	4.41	4.77
2	5/16	4.95	5.35
2½	5/16	6.06	6.54
3	5/16	7.21	7.79
¾	3/8	4.45	4.77
7/8	3/8	4.75	5.10
1	3/8	5.06	5.44
1¼	3/8	5.71	6.15
1½	3/8	6.37	6.86
2	3/8	7.75	8.36
2½	3/8	9.23	9.96
3	3/8	10.90	11.75

Threads per Inch

Diameter	5	6	8	10	12	¼	5/16	3/8
Coarse Thread	40	32	32	24	24	20	18	16
Fine Thread	----	40	36	32	----	28	----	----

Prices apply to both National Fine and National Coarse Thread Series. Specify number of threads per inch when ordering.

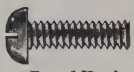
*Plated finishes include nickel, brass, bronze, blued copper, cadmium, and electro galvanized. Lengths and diameters not listed are considered special. Prices furnished on application.

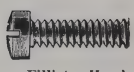
STEEL MACHINE SCREWS

SLOTTED HEAD

Flat Head

Oval Head


Round Head


Fillister Head

Lgth. In.	Price per Gross — Diameter of Screw: 2	3	4	6	8	10
	Coarse Threads per Inch: 56	48	40	32	32	24
	Fine Threads per Inch:					32
1/8	$0.41	$0.42	$0.43	$0.47	.....	.....
5/32	.42	.43	.44	.48	$0.60	$0.67
1/4	.43	.44	.45	.49	.62	.69
5/16	.44	.45	.46	.50	.64	.71
3/8	.45	.46	.47	.51	.66	.73
7/16	.46	.47	.48	.52	.68	.75
1/2	.47	.48	.49	.54	.70	.77
5/8	.49	.51	.52	.57	.74	.82
3/4	.51	.53	.55	.60	.77	.87
7/8	....	....	.57	.65	.81	.92
1	....	....	.61	.70	.88	.98
1 1/8	....	....	....	.80	.96	1.06
1 1/4	....	....	.80	.90	1.04	1.15
1 1/2	....	....	.90	1.00	1.16	1.30
1 3/4	....	....	....	1.10	1.28	1.45
2	....	....	....	1.20	1.40	1.60
2 1/4	....	....	....	....	1.55	1.80
2 1/2	....	....	....	....	1.70	2.00
2 3/4	....	....	....	....	1.85	2.20
3	....	....	....	....	2.00	2.40

Lgth. In.	Diameter of Screw: 12	1/4	5/16	3/8	*1/2
	Coarse Threads per Inch: 24	20	18	16	13
1/4	$0.83	.....	.....	.....	.....
5/16	.....	$1.10	.....	.....	.....
3/8	.89	1.13	$1.70	.....	.....
7/16	.....	1.16	.....	.....	.....
1/2	.95	1.20	1.80	$2.75	.....
5/8	1.02	1.28	1.95	2.95	.....
3/4	1.08	1.36	2.05	3.10	.....
7/8	1.14	1.45	2.20	3.30	.....
1	1.20	1.55	2.35	3.50	$7.20
1 1/8	.....	1.65	.....	.....	.....
1 1/4	1.40	1.75	2.65	3.90	7.90
1 1/2	1.55	1.95	3.00	4.30	8.60
1 3/4	.....	2.15	3.35	4.70	9.40
2	1.85	2.35	3.70	5.10	10.20
2 1/4	.....	2.55	.....	.....	.....
2 1/2	.....	2.80	4.40	6.20	12.10
2 3/4	.....	3.10	.....	.....	.....
3	.....	3.40	5.20	7.50	.....

Lengths, diameters, and threads not listed are considered special, but are furnished to the extent that they may be in stock, or when required in sufficient quantities of a size to warrant being made to order.

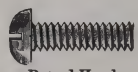
*Made in flat heads only.

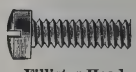
BRASS MACHINE SCREWS

SLOTTED HEAD

Flat Head

Oval Head


Round Head


Fillister Head

Lgth. In.	Price per Gross — Diameter of Screw: 2	3	4	6	8	10
	Coarse Threads per Inch: 56	48	40	32	32	24
	Fine Threads per Inch:					32
1/8	$0.48	.....	$0.57	$0.70	.....	.....
5/32	.50	$0.54	.60	.75	$1.10	.....
1/4	.52	.57	.63	.80	1.18	$1.48
5/16	.54	.60	.67	.85	1.26	1.56
3/8	.57	.63	.71	.90	1.34	1.65
7/16	.60	.66	.75	.96	1.42	.....
1/2	.63	.69	.79	1.02	1.50	1.85
5/8	.69	.75	.87	1.14	1.65	2.10
3/4	.75	.82	.95	1.26	1.80	2.30
7/8	....	....	1.05	1.38	1.95	2.50
1	....	....	1.15	1.50	2.10	2.75
1 1/4	....	....	1.45	1.85	2.40	3.30
1 1/2	....	....	....	2.10	2.80	3.75
1 3/4	....	....	....	....	3.20	4.20
2	....	....	....	2.70	3.60	4.60
2 1/2	....	....	....	....	4.40	5.50
3	....	....	....	....	5.20	6.50

Lgth. In.	Diameter of Screw: 12	1/4	5/16	3/8	*1/2
	Coarse Threads per Inch: 24	20	18	16	13
3/8	$2.20	$3.10	$5.30	.....	.....
1/2	2.50	3.50	5.90	$9.40	.....
5/8	2.80	3.90	6.50	.....	.....
3/4	3.00	4.10	7.10	11.00	.....
7/8	.....	4.50	.....	.....	.....
1	3.60	4.90	8.30	12.70	$27.00
1 1/4	4.20	5.60	9.50	14.50	30.00
1 1/2	4.70	6.30	10.60	16.10	33.00
1 3/4	.....	7.00	.....	.....	.....
2	5.90	7.80	12.80	19.40	39.00
2 1/2	.....	9.40	15.40	22.90	.....
3	.....	11.00	18.00	26.50	.....

Lengths, diameters, and threads not listed are considered special, but are furnished to the extent that they may be in stock, or when required in sufficient quantities of a size to warrant being made to order.

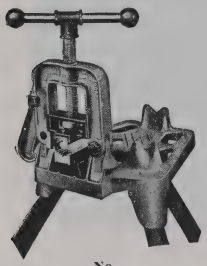
*Made in flat heads only.

ARMSTRONG BROS.
CHICAGO, U.S.A.
IDEAL
GREENLEE
No. 740
C&L
No. 32
AUSTIN
12
18T

tools

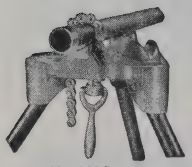
ARMSTRONG PORTABLE VISE STANDS

INTEGRAL VISTAND

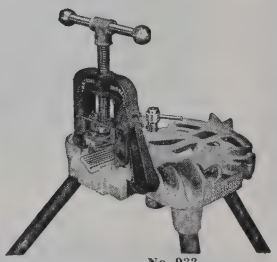


No. 833BX with Broad Jaw Vise

No. 934C Heavy Duty VISTAND with Chain Vise



No. 833C with Chain Vise



No. 933 Heavy Duty VISTAND with Broad Jaw Vise

The ARMSTRONG Integral VISTAND is three units in one—Vise, 3-Legged Stand and Pipe Bender. Well balanced—easily carried in one hand. A chain lock secures the legs in folded position while being carried.

The Nos. 833BX and 833C VISTANDS have ¾-inch Pipe Benders and slots for tools. The platform provides ample space for oil can and loose fittings.

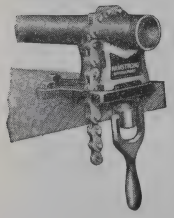
The Nos. 933 and 934C Heavy Duty VISTANDS have all the features of the Nos. 833BX and 833C respectively, plus 2 extra Benders, ½ and ¾-inch, for reverse bends, more slots for tools, a Ceiling Brace and a cast-in Dope Pot.

The Broad Jaw Vises have Frictionless Disk and double-pitch feed screw. No. 933 has the sure-gripping "Upset" lower jaw.

Cat. No.	Holds Pipe Inches	Wt. Lb.	Cat. No.	Holds Pipe Inches	Wt. Lb.
833BX	⅛ to 2½	42	**933**	⅛ to 2½	48
833C	⅛ to 2	36	**934C**	⅛ to 4	42

Available Slide for Nos. 833BX and 933. Handle and Screw for Nos. 833BX and 933.

For additional Vise Part Repairs: Nos. 833BX and 933, see No. 233 Vise; No. 833C, see No. 1 Chain Vise; No. 934C, see No. 2 Chain Vise.



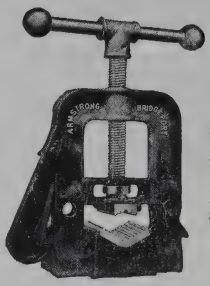
ARMSTRONG CHAIN PIPE VISES

These chain pipe vises are unbreakable. They are compact, rapid acting and have a firm grip.

A turn of the handle locks the pipe securely.

Cat. No.	Holds Pipe Inches	Wt. Lbs.	Cat. No.	Holds Pipe Inches	Wt. Lbs.
1	⅛ to 2½	4¼	**3**	½ to 6	20½
2	¼ to 4	11¼	**4**	½ to 8	30¾

ARMSTRONG IMPROVED PIPE VISES



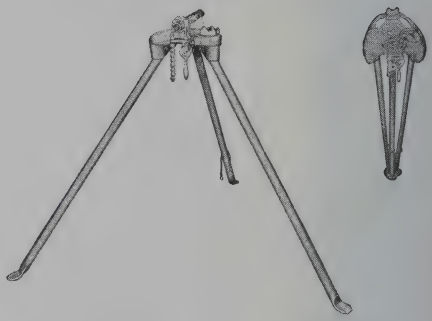
ARMSTRONG BROAD JAW VISES

With the Frictionless Disk

Standard Hinged, (or Bench Type), with full length Broad Jaws, one upper and one lower, that hold the pipe along their entire length with a tight, firm and sure grip that does not mar the pipe. No. 231, 232, 233 and 234 have the new "Upset" jaws and Double-Action screw. Base is drilled for mounting on any standard portable vise stand, post or bench. Individually boxed.

No.	Holdes Pipe Inches	No.	Holdes Pipe Inches
231	⅛ to 1¼	**233**	⅛ to 2½
232	⅛ to 2	**234**	⅛ to 3½

WILLIAMS "VULCAN" ALUMINUM VISE STAND No. AV-1



The new Aluminum Vise Stand has all the advantages of rigidity and strength found in iron or steel types combined with light weight. There is no sacrifice of efficiency or performance yet weight is reduced nearly 50%.

Base is made from special aluminum alloy which has high tensile and high impact properties. Its heavily reinforced design prevents distortion under severe service. Recess for oil can and handy slots for tools are provided in addition to the "V" pipe support in rear. Pipe Benders are provided in two sizes. One handles pipe up to ½-inch, the other handles pipe up to ¾-inch. Legs are 1-½-inch special aluminum tubing. Upset feet are punched for fastening to floor, if desired, although they provide firm, stable support without such fastening. Legs may be folded and tied together with permanently attached chain for easy carrying. Vise is "Vulcan" No. 1 with all its time tested features except that it has satin aluminum finish.

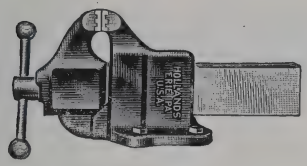
Entire assembly has satin aluminum finish. All parts of vise and stand are interchangeable. Weighs only 18¾ lbs. folded for carrying.

Cat. No.	Pipe Size	Price Complete	Jaws Pair	Chain with Screw	Screw	Handle with Nut	Handle Only
*AV-1	⅛ to 2	**$41.82**	**$3.87**	**$3.21**	**$1.03**	**$2.84**	**$1.94**

Nut only, **$1.80.** *Will grip pipe fittings not larger in diameter than Std. 2½-inch pipe (2⅞-inch O.D.)

HOLLANDS VISES

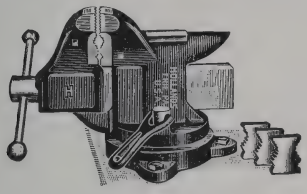
HOLLANDS MACHINISTS VISES



Solid Jaw, Stationary Base

Solid Jaw Stationary Base				Solid Jaw—Swivel Base			
Vise No.	Width Jaw Ins.	Wt. Lbs. Each	Price Each	Vise No.	Width Jaw Ins.	Wt. Lbs. Each	Price Each
13	3	24	**$20.00**	23	3	33	**$26.00**
13½	3½	30	**22.50**	23½	3½	38	**30.00**
14	4	44	**25.50**	24	4	55	**34.00**
14½	4½	60	**31.00**	24½	4½	75	**40.00**
15	5	75	**40.00**	25	5	90	**60.00**
16	6	150	**78.00**	26	6	165	**104.00**
18	8	270	**150.00**	28	8	300	**196.00**

HOLLANDS COMBINATION VISES



Pipe Jaws are interchangeable and reversible and do not extend beyond jaws of vise which obviates the necessity of removing pipe jaws when using as a machinist's vise. Sizes No. 54 and 56 have double clamping lock.

Vise No.	Width Jaw Inches	Holds Pipe Inches	Wt. Lbs., Each	Price Each
52½H	4	⅛ to 2½	60	**$35.00**
53½H	4½	⅛ to 3½	90	**48.00**
54H	5	⅛ to 4½	140	**76.00**
56H	6	⅛ to 6	200	**120.00**

ARMSTRONG TOOLS

HEAVY DUTY PIPE CUTTERS

No. 2A

Designed for use as a heavy-duty pipe cutter. May be used as a one or three wheel cutter by substituting cutter wheels for rollers. Scored "speed twirler" on feed screw permits fast adjustment.

No. 4 Cutter has an auxiliary handle, on the front end, making it a two-handed tool for easier operation on the larger sizes.

Cat. No.	Cuts Pipe	Wt. Lbs.
2A	⅛ to 2	6
4A	2 to 4	20

ARMSTRONG TOOLS

DROP FORGED PIPE CUTTERS

Trimo Type

Cat. No.	Cuts Pipe	Wt. Lbs.	Cat. No.	Cuts Pipe	Wt. Lbs.
1T	⅛ to 1¼	5¼	**3T**	1 to 3	8¾

Knife blade cutter wheels supplied for all types.

ARMSTRONG COOLING CUTTING OIL

"It Cools As It Cuts"

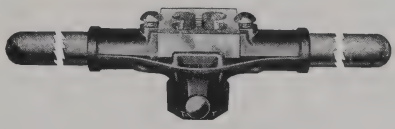
This cutting oil gets around the conduit faster and stays there longer. Transparent, will not dirty the pipe or hands. Flows freely in cold temperatures. Absorbs heat and extends life of the Dies.

Either light or dark oil is available.

	Pint Can	Quart Can
1 Gal. Can, with easy pouring spout		
5 Gal. Can, with easy pouring spout		
30 Gallon Drums	per gallon	
50 Gallon Drums	per gallon	

ARMSTRONG SOLID STOCKS AND DIES

For Conduit



Set No.	Size—Inches
C0S	½, ¾
C1S	½, ¾, 1

Left-hand Dies take twice the die price.

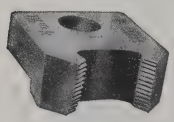
CONTACT OUR NEAREST OFFICE FOR ASSISTANCE ON YOUR ELECTRICAL REQUIREMENTS

ARMSTRONG TOOLS

ADJUSTABLE STOCKS AND DIES—FOR PIPE

Each set consists of an Armstrong Adjustable Stock with Armstrong "Kalorized" Adjustable Pipe Dies and Ring Bushings for each threading size, with screws, handles and wrench. Packed in substantial carton.

The leading threads in the double taper throat distinguish these dies. The full size leading threads pull the dies onto the pipe without pushing.



Armstrong "Kalorized" Dies start a clean, true thread, over the meanest burr. The metal cutting edge of each die has its individual rake angle. These dies shear, they do not scrape or hog in. They slide smoothly and evenly around the pipe.

Set No.	Threading Pipe Sizes—Inches	Sets Wt. Lbs.
1 ⅛	⅜, ½, ¾	5
1 ⅛	⅛, ¼, ⅜, ½	5½
1 ⅛	⅛, ¼, ⅜, ½, ¾	6
2	¼, ⅜, ½, ¾, 1	12½
2	⅛, ¼, ⅜, ½, ¾, 1	13½
2	⅜, ½, ¾, 1	11½
2	½, ¾, 1	10½
2 ⅛	½x¾, 1x1¼	12½
2 ⅛	¼, ⅜, ½x¾, 1x1¼	16
2 ⅛	½x¾, 1x1¼, 1½	15¼
3	1¼, 1½, 2	28
3	1, 1¼, 1½, 2	32
3	¾, 1, 1¼, 1½, 2	36
3	½, ¾, 1, 1¼, 1½, 2	40

X between two sizes indicates Dies are double-ended.

Left-hand Dies take twice the die price.

ARMSTRONG SOLID RATCHET DIESTOCKS

For Conduit

A twist of the fingers quickly reverses the Ratchet Pawl for backing off or for cutting left-hand threads. This is true of the plain handle Solid stocks with slot plates instead of screws.

Set. No.	Size—Inches
C151BR	½, ¾, 1

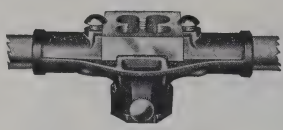
No. C151BR Solid Ratchet Diestock less Dies.

Left-hand Dies take twice the die price.

Letter C before a catalog number indicates conduit dies are specified. Conduit sets should be designated as such.

ARMSTRONG TOOLS

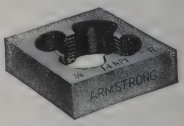
SOLID STOCKS AND DIES—FOR PIPE



Each set consists of an Armstrong solid stock with Armstrong "Kalorized" solid pipe dies and ring bushings for each threading size, with screws and handles. Each set packed in a substantial fiber box.

The Armstrong "Double Taper" Lead with full size leading threads in the throat distinguish these dies. These threads pull the dies onto the pipe without pushing. They start a clean, true thread, over the meanest burr.

The pipe threading edge of each die has its individual rake angle. These dies shear, they do not scrape or hog in. They slide smoothly and evenly around the pipe. They hold their cutting edges.



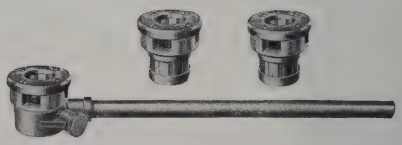
Set No.	Threading Pipe Sizes—Inches	Wt. Lbs.	Set No.	Threading Pipe Sizes—Inches	Wt. Lbs.
0S	⅛, ¼, ⅜, ½,	5½	1½	¼, ⅜, ½, ¾, 1, 1¼	21¾
1S	⅛, ¼, ⅜, ½, ¾, 1	12¼	1½	½, ¾, 1, 1¼	18
1S	¼, ⅜, ½, ¾, 1	11	1½	¾, 1, 1¼	16¼
1S	⅜, ½, ¾, 1	9¾	2	½, ¾, 1, 1¼, 1½, 2	31¾
1S	½, ¾, 1	8¾	2	1, 1¼, 1½, 2	25½
			2	1¼, 1½, 2	22½

Size of dies: No. 0S, 2x2x⅝; No. 1S, 2½x2½x¾; No. 1½, 3x3x⅞; No. 2, 4x4x1 inches.

Left-hand Dies take twice the die list.

DROPHEAD RATCHET DIESTOCKS FOR CONDUIT

With Segmental Dies



All the advantages of ARMSTRONG Segmental Dies built into a quick-changing threader. Just lift out one Diehead and insert another when changing sizes, no Guides or Bushings required. An ideal tool for close corners and those hard-to-get-at places.

Ratchet Pawls are reversed quickly. Easy exit for chips is provided by four large openings in each Diehead. A light-weight, heavy-duty tool.

No. C190R has a range from ⅛–1 inch.

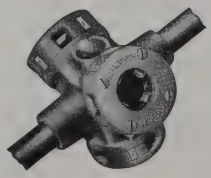
No. C191R has a range from ⅛–1¼ inches.

Left hand Dies are not available.

Sets, Dies, Heads and Collars in Sizes: ½-1, ½-¾, ⅜-1, ⅜-¾, ½-1¼, ⅜-1¼.

ARMSTRONG 3-WAY DIESTOCKS

For Conduit



With Segmental Dies

Set No.	Sizes—Inches
170	⅜, ½, ¾, 1
170	½, ¾, 1

Extra Dies for Conduit: ⅜ to ¾", 1 inch available.

CAPEWELL PIPE TOOLS

DROPHEAD RATCHET PIPE THREADERS

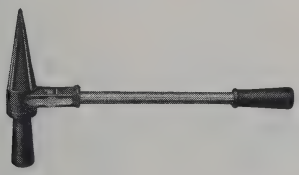
The Standard Vosper patented Drophead Handle is longer for greater leverage, carries a hand grip for greater comfort and has a straight line pawl mechanism mounted on ground seamless steel tubing for greater overall tool strength.

The Ratchet Pawl on all Vosper Drophead Threaders is positioned by keying the knurled thumb knob into the yoke casting. The $\frac{3}{16}$-inch taper pin being a drive fit into the knurled knob will not shear off. This construction eliminates pin breakage with resultant pawl displacement common to other designs, and lends itself to convenient disassembly.

STANDARD No. 12 DROPHEAD RATCHET THREADER

Unless otherwise specified the Standard Vosper No. 12 Drophead Ratchet Threader will be furnished with 1, 2-inch die head complete with R.H. dies to cut National pipe threads. The distinctive feature of an extra range from ⅛–¾-inch using No. 00 die heads in conjunction with No. 12 adapters is an added user convenience. Any combination of No. 12 die heads or No. 00 die heads with No. 12 adapters may be ordered, and conduit dies will be furnished at no extra cost. The No. 12 Ratchet Handle can be used with any drop head covering similar range of sizes. No. 12 Steel Cases with hinged covers accommodate a ratchet handle, four No. 12 die heads and two No. 00 die heads with No. 12 adapters.

No. 2 RATCHET REAMER



The No. 2 Vosper Ratchet Reamer efficiently removes the burr from ⅛–2-inch pipe. Made of oil hardened, manganese tungsten tool steel, the reamer cone carries four flutes ground with progressive relief to insure uniform, smooth cutting. Easily disassembled, the Reamer cone can be reground or replaced at low cost. Used on a "twister" this tool will not dig into the work. The ratchet handles used with this tool can be used with all No. 11 die heads.

No. 210R RATCHET REAMER

Reams pipe ¼ to 3 inches. Built for rough, hard usage. Dull heads easily removed and resharpened, or worn heads replaced.

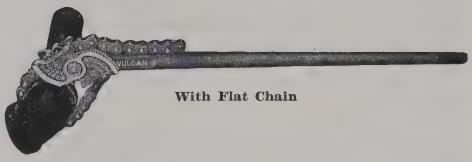
No. 244R BIT BRACE RATCHET BURRING REAMERS

These burring reamers remove burrs from pipe and conduit. Spiral blades cut smoothly and rapidly. Reams pipe from ⅛ to 2 inches.

LIGHTNING CONDUIT REAMER

Cat. No.	Cap Inches	Std. Pkg.	Wt. Lbs. Std. Pkg.
1242	¼ to 1	10	3¾
1242½	¼ to 1¼	10	4¼
1244	¼ to 2	10	13½

WILLIAMS' "VULCAN SUPERIOR" PIPE AND FITTINGS TONGS



With Flat Chain

With Cable Chain

Drop-forged. Chain locks easily and positively. Since they serve both pipe and fittings, two tools as commonly used are unnecessary.

The reversible jaws give double life. When the teeth first in use wear simply unscrew the bolt and turn the jaws end-for-end. The "V" recess in the jaws, combined with their general design gives "Vulcan Superior" a greater number of "bites", both on pipe and fittings, than ordinary tongs.

Cat. No.	Capacity Fittings	Extreme Length	Wt. Lbs. Each	Price Complete
0	⅛ to ¾	13¾	2	$8.71
1	⅛ to 1½	20	5½	12.20
2	¼ to 2½	27	10	17.42
3	¾ to 4	37	17	24.40
3½	1 to 6	44½	26	31.36
4	1½ to 8	50½	34	38.34
5	2 to 12	64½	54	62.72

Extra Chain and Jaws

No.	0	1	2	3	3½	4	5
Standard Flat Chain or Cable	$1.96†	$2.62	$3.92	$6.53	$9.15	$11.76	$19.60
*Jaws, per pair....	3.49	6.09	9.58	13.94	16.56	19.16	26.14
Bolt and Nut Set	.48	.63	.80	1.05	1.21	1.57	2.28

*Extra jaws supplied in pairs unless otherwise specified. If only a single jaw is wanted, specify right or left.

†Flat chain only.

TAL HYDRAULIC AND MECHANICAL PIPE AND TUBE BENDING EQUIPMENT

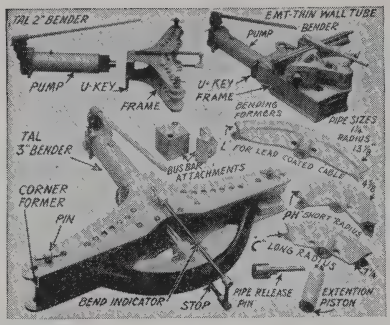


Illustration upper left: TAL 2-inch Bender for pipe and conduit, showing only two parts to be assembled with "U" Key: One pump and one frame, assembly takes less than one minute. The bend indicator with stop is standard equipment with all TAL Benders. The bend indicator showing degree of bend and the semi-circular TAL bending formers, make it possible for even inexperienced labor to obtain perfect bends in record time.

Illustration lower left: TAL 3-inch Bender Assembled. The two corner formers are kept in place, each with one pin, and the bending former is slipped over ram end, all in a few seconds. No threads, no cotters, no bolts. Note how pipe touches pipe indicator, showing that a 90° bend has been obtained.

TAL Conduit Benders are available in sizes up to: 2", to 3" and larger with the following standard bending formers:

For Electrical Rigid Conduit, with Long Radius formers (C).

Set No. 2—4 Bending Formers: **$48.15**

Pipe Sizes:	1"	1¼"	1½"	2"
Radii:	5¾"	7¼"	8¼"	9½"

Set. No. 3—$62.00 **Set No. 4—$136.00**

	2 Bending Formers		2 Bending Formers	
Pipe Sizes:	2½"	3"	3½"	4"
Radii:	10"	12"	18"	23"

These are the minimum Radii which can be obtained with TAL Benders. With the same Bending Formers any desired Longer Radius Bend can be made.

TAL Benders are made in the following Models: (Complete only, as listed).

ELECTRICAL CONTRACTORS MODEL FOR RIGID CONDUIT

No. 2C 2" Bender with 4 bending formers:
Set No. 2.....**$178.50**

No. 3C 3" Bender with 6 bending formers:
Set No. 2 and No. 3.....**$246.00**

No. 400 4" Bender without bending formers **$378.00**

Available with bending former set Nos. 2, 3 and 4.

An extra set of 4 bending formers in short radius in sizes of 1, 1¼, 1½ and 2 inch for plumbing and heating is available at **$48.15**

Produces smooth bends without kinks or wrinkles, in one single setting without moving the pipe. Is fool-proof, and can be handled by inexperienced labor. ON THE 4-INCH BENDER, IT TAKES ONLY 20 MINUTES including handling of pipe TO MAKE 90° BENDS and offsets, and a fraction of this time if motorized. Adaptable to any job with quick changeover to various pipe sizes. Quick release device removes pipe instantly.

All hydraulic benders make offsets, 90° or 180° bends in one forward ram stroke.

EXTRA EQUIPMENT

For parallel bends, a correspondingly larger 2" former available.....**$ 42.00**

TAL Bus Bar Attachment, bends stock easily up to 4", and can be used with regular 3 or 4" TAL rigid conduit bender..**$23.00**

TAL Quick Fit Release Pin for any TAL Bender .....**$ 2.35**
Pushes pipe out of former if too snugly imbedded. Pipe has to fit tight in bending former to avoid flattening.

TAL "L" Formers, with extra long radius, for lead coated cable, available in:

Pipe Sizes:	1"	1¼"	1½"	2"	**$128.00**
Radii:	10½"	13⅛"	15¾"	21¼"	

THIN WALL CONDUIT

TAL E.M.T. Thin Wall Tube Bender, (1" to 2"), using same pump and "U" key as rigid conduit Benders, makes fast and efficiently, in one single setting, perfect offsets or 90° bends, free from kinks or wrinkles, in any type tubing.

Complete E.M.T. Bender, consisting of standard TAL pump, E.M.T. frame and formers for 1", 1¼", 1½" and 2" tubing (conduit).....**$298.00**

E.M.T. attachment with frame and formers for use with standard 2" or 3" pipe benders..**$198.60**

COMBINATION E.M.T. AND RIGID CONDUIT MODEL

EMT/2C for 1" to 2" rigid conduit and for 1" to 2" thin wall.....**$368.80**

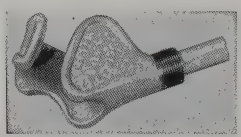
EMT/3C for 1" to 3" rigid conduit and for 1" to 2" thin wall.....**$432.85**

MECHANICAL HAND BENDER

For small sizes rigid and thin wall conduit. **HB2100** for ½" and ¾" EMT and Rigid conduit, complete with formers **$67.00**
HB2150 Attachment for bench **$12.00**

For small size copper and other tubing. **1200** 3-in-1 bender for bending copper Type K & L, aluminum and other tubing **$38.00**

Sizes
⅜" OD — Radius 1 "
½" OD — Radius 1½"
⅝" OD — Radius 2 "



6-WAY HICKEY

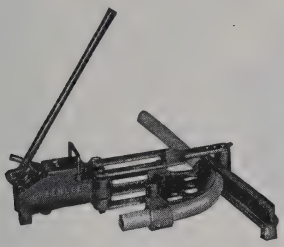
Six bending jaws for perfect bends and easy operation in close quarters, or on open slab work. Has many advantages over single jaw benders. Wt. 4 pounds. **$6.90**

Ask for special catalog for other TAL pipe bending equipment, not mentioned here.

Patented and Patents pending.

GREENLEE HYDRAULIC BENDERS

No. 770-T THIN-WALL CONDUIT BENDER

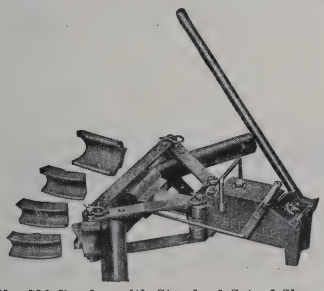


Powered with the No. 770 unit, but with complete attachments for bending thin-wall electrical metallic tubing — without crushing. Quick acting — one forward stroke of ram makes a full 90-degree bend. Portable, easily set up.

Regular attachments furnished bend ¾, 1, 1¼, 1½ and 2-inch sizes of thin-wall conduit. Any No. 770 Bender now in use can be equipped with these easily applied attachments.

Cat. No.	Description	Wt. Lbs., Each	Price Each
770-T	Thin-Wall Conduit Bender complete for 1¼ to 2-inch	266	$230.00
770-T	Thin-Wall Conduit Bender complete for ¾ to 2-inch	350	275.00
770-T	Attachments only 1¼ to 2-inch	190	120.00
770-T	Attachments only ¾ to 2-inch	260	165.00

Nos. 770 and 775 HYDRAULIC BENDERS



No. 770 Bender with Standard Set of Shoes

With a Greenlee one man quickly gets the desired bend by pumping the handle for powerful hydraulic force. Bends are smooth, accurate — no kinking or damage to conduit or pipe.

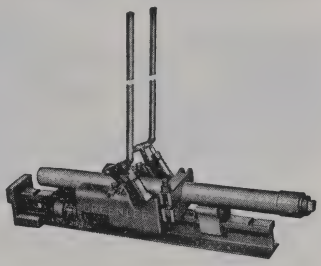
No. 770 Hydraulic Bender illustrated above, with standard equipment, bends 1¼, 1½, 2, 2½ and 3-inch conduit and pipe. Extra attachments available for bending ½, ¾ and 1-inch sizes. Maximum piston pressure, 50,000 pounds.

No. 775 Hydraulic Bender is similar in design to the No. 770, but of larger size, heavier weight and powered to bend these larger sizes of conduit and pipe: 3, 3½, 4 and 5-inch. Maximum piston pressure, 80,000 pounds. Can be furnished with extra shoes and supports for bending 8 sizes of pipe from 1¼ to 5-inch.

Cat. No.	Description	Wt. Lbs., Each	Price Each
770	Complete for 1¼ to 3-inch	215	$170.00
775	Complete for 3 to 5-inch	400	235.00

GREENLEE HYDRAULIC PIPE PUSHERS

MODEL No. 790 PIPE PUSHER



Pipe for gas, water supply, sewer and other purposes, conduit for electricity and telephone cable is easily installed underground, without expensive trenching, with a Greenlee hydraulic pipe pusher.

For pipe ¾ to 4-inch size inclusive. Six operating speeds with pushing pressures ranging from 6500 to 40,000 pounds. Power unit travels on notched steel base, supplied in 5½, 6½, 7½ and 8½ ft. lengths, permitting pushes of from 4 to 7 feet between changes of pipe clamp. Each base equipped with one backing plate and two pipe supports. Weight, power unit only, 160 pounds.

Price, No. 790 Power Unit only.....each $185.00

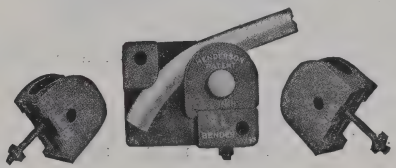
Steel Bases, complete with pipe support and backing plate:

Base Ft.	Push Ft.	Wt. Lb.	Price Each	Base Ft.	Push Ft.	Wt. Lb.	Price Each
5½	4	145	$30.00	7½	6	185	$40.00
6½	5	165	35.00	8½	7	205	45.00

Quick-Acting Clamps for following pipe sizes: ¾", 1", 1¼" each $10.00; 1½" $10.75; 2" $11.50; 2½" $12.75; 3" $15.00; 3½" $17.50; 4" $22.50.

HENDERSON XL CONDUIT BENDERS

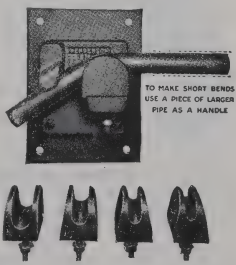
STYLE NO. 1 STANDARD TYPE



Furnished with 3 bending blocks for ½, ¾ and 1-inch conduit, complete with lag screws. Weight 18 pounds.

Price, Style No. 1, Standard Type, each.....$24.00

STYLE NO. 2 GIANT TYPE



Furnished with 5 bending blocks for ½, ¾, 1, 1¼ and 1½-inch conduit. Fastens with lag screws or bolts through clearance holes in the base to any suitable support. Furnished complete with lag screws. Weight 100 pounds.

Price, Style No. 2, Giant Type, Each.....$57.60

HENDERSON CONDUIT BENDERS

EZ CONDUIT BENDERS — SHELL TYPE

Type EZ is a combination hand hickey and stationary bender. Handles are not supplied. They should be from 3 to 3½ feet long. Bends elbows, offsets, or any combination of elbows and offsets, without slipping or distorting the conduit in any way. Made in 3 sizes for hand and stationary bending of ½, ¾ and 1-inch conduit; the three larger sizes, 1¼, 1½ and 2-inch, are for stationary bending only. See illustration at right.

Threaded for Pipe Handle — Size Inches	Std. Pkg.	Price Each	Threaded for Pipe Brace — Size Inches	Std. Pkg.	Price Each
½	10	$2.40	1¼	1	$12.00
¾	5	3.00	1½	1	18.00
1	3	6.00	2	1	24.00

TUBENDERS FOR THIN WALL CONDUIT SHELL TYPE

The tubender is designed to bend thin wall conduit (electrical metallic tubing) without kinking, flattening or slipping. The side opening makes it easy to take out the conduit and check the bends at any time. There are deep, snug-fitting bending grooves on both the front extension and the rear. The rear groove is extended so as to give the conduit proper support during the bending operation. The grooves are shaped and the bending elements are spaced so as to keep the conduit circular in cross-section while it is being bent. Handles are not furnished.

Threaded for Pipe Handle,

Size inches	½	¾	1	1¼
Price, each	$2.40	$3.00	$6.00	$9.60

HENDERSON O K CONDUIT ELBOW FORMER

For the rapid and accurate bending of conduit elbows, offsets or angles in any combination. Will bend a standard radius conduit elbow in a few seconds. No skill required.

The patented design of the bending groove prevents slipping, flattening and kinking, while the curve of the groove is the same as a standard conduit elbow. Faster than a hickey and more accurate.

Prices are for elbow former heads only.

Size, inches	½	¾	1
Price, each	$5.40	$7.20	$9.00

T & B LAKIN HICKEY

Made in three sizes. Shank is extra long assuring great strength. Shank has bushed hole designed to slip over end of conduit for making short bends at end of conduit. Bushed opening in shank fits snugly over end of conduit and prevents damaging threads while bend is being made.

Cat. No.	Size Inch	Std. Pkg.	Price Each	Cat. No.	Size Inch	Std. Pkg.	Price Each
335	½	10	$2.95	337	1	2	$8.15
336*	¾	10	4.70	------	--	--	--------

*Can also be used to bend ½-inch pipe.

SILVEY HICKEY

The only conduit bender on the market that will not slip nor kink or mash the conduit.

Easy to handle, light in construction and strong. It is all in the groove. It is constructed so that the pressure in bending the conduit is on the sides, leaving the top of conduit free from any pressure, so it can contract in process of bending, which prevents kinking and slipping.

Made in three sizes, as listed.

	½-Inch	¾-Inch	1-Inch
Price ..... each	$1.75	$2.25	$3.75

T & B FISH TAPE

T & B Fish Tape with terminal balls will slip and squirm through the most complicated bends without losing the wire.

Eyelets in the Terminal Balls are smoothly bushed to avoid damage to soft copper wires being pulled. Standard coils are 100 and 200 feet long. Furnished in 50 and 150 foot lengths when requested.

Cat. No.	Size Inches	Wt. Lbs. 1000 Ft.	Price Per 100 Ft.	Cat. No.	Size Inches	Wt. Lbs. 1000 Ft.	Price Per 100 Ft.
3600	⅛ x .030	20	$5.75	3602	3/16 x .060	40	$10.60
3601	⅛ x .060	30	8.50	3603	¼ x .060	60	13.80

T & B FISH TAPE BALLS

Fit any standard tape. To install, fit end of tape into slot in threaded insert and screw ball onto the insert.

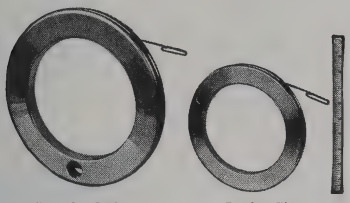
Cat. No.	Size Inches	Unit Quan.	Std. Pkg.	Wt. Lbs. Per 100	Price Per 100
3615	⅛ x .060	10	50	3	$80.00
3616	3/16 x .060	10	50	5	96.00
3617	½ x .060	10	50	6	96.00

IDEAL FISH TAPES

Highest grade tempered spring steel is used. No curling. Flexible and easy to use on long runs of conduit having several bends.

Cat. No.	Length and Size of Tape	Price Each
31-004	50 ft. ⅛ x .060 (1/16")	$2.60
31-036	100 ft. ⅛ x .060 (1/16")	5.00
31-038	200 ft. ⅛ x .060 (1/16")	9.90
31-050	100 ft. ¼ x .060 (1/16")	8.00
31-052	200 ft. ¼ x .060 (1/16")	16.00
31-078	50 ft. ⅛ x .045 (3/64")	2.30
31-079	100 ft. ⅛ x .045 (3/64")	4.30
31-082	Fish Tape Leader	4.70
31-083	Fish Tape Ball	1.30

IDEAL FISH TAPE REELS AND PULLERS



Standard Size Junior Size

Invaluable for building construction and industrial work. Reel serves as handle to give firm grip in pulling on fish tape.

Saves 50 per cent of the workman's time. Keeps tape fully protected, coiled ready to use.

Nine stock sizes of complete Fish Tape, Reels, and Pullers.

Cat. No.	Length and Size of Tape	Price Each
31-007	50 ft. ⅛ x .045 (3/64")	$5.10
31-008	50 ft. ⅛ x .060 (1/16")	7.50
31-009	100 ft. ⅛ x .060 (1/16")	12.80
31-011	100 ft. ¼ x .060 (1/16")	15.40
31-016	200 ft. ⅛ x .060 (3/64")	18.90

IDEAL COIL-FLEX FISH TAPE

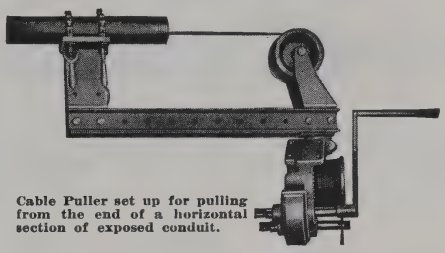
For all types of conduit — including aluminum. The Ideal Coil-Flex is extremely flexible; can be pushed or pulled with little effort through any and all bends allowed by the electrical code. Its round surface slides through any type of conduit far more easily than flat tape. Positively prevents cutting or damaging of aluminum. Ends are smooth and round to avoid catching or snagging.

The Coil-Flex consists of a 25-ft. length of steel spring 1/32 inch in diameter with a rustproof inner steel cable. A male fitting on one end and a female fitting on the other makes it easy to join together two or more lengths for jobs requiring a longer tape. Easy on the hands, it gives a safe, positive grip. Every Coil-Flex is factory inspected and tested at 400 pounds pull.

Price, No. **31-081** 25-ft. length.....each **$15.30**

GREENLEE CABLE PULLER

No. 765 CABLE PULLER AND FLEXIBLE ELBOW ATTACHMENT

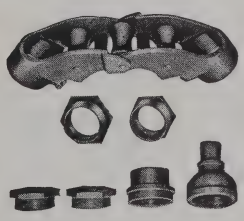


Cable Puller set up for pulling from the end of a horizontal section of exposed conduit.

Cable pulling has always presented difficulties to the electrician, due to the cumbersome, heavy equipment used and to the trouble of properly anchoring it. It provides maximum power, ease of operation, portability, and convenient, positive anchorage.

The machine will exert a maximum pull of 7500 pounds, and it has two speeds, through a direct gear and through a back gear. A shear pin is provided in the back-gear shaft to prevent damage under excessive pull, and a dog on the back gear prevents unwinding of the cable in event of the pin shearing. Two cranks are supplied, but if preferred, ratchet wrenches can be used. A portable electric power unit can also be used for driving the machine. The puller is readily portable, since it has a net weight of only 170 pounds.

In exposed work the clamping is done directly onto the conduit through which the cable is to be pulled. The clamping device consists of a bracket on the frame and two lengths of pipe wrench chain. While regularly rated for conduit from 2 to 4-inch the clamp will accommodate 5-inch conduit.



Flexible Elbow Attachment

For pulling cable into concealed conduit, where the regular clamping device cannot be used, an attachment can be furnished, which makes it convenient to use the puller without its frame and provides for placing it at any distance from the end of the conduit.

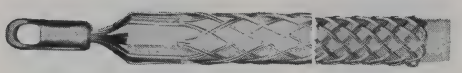
This attachment consists of a flexible elbow, a 4-inch master sleeve, bushings for 2, 2½, 3, and 3½-inch conduit, two unions for the small bushings to permit using them in close quarters, and a 4-inch to 2-inch reducer.

Cable is not furnished with the machine, and it is recommended that a ¾-inch 6-19 strand, having a breaking strength of 11,000 pounds or more, should be used.

Cat. No.	Description	Shpg. Wt. Lbs.	Price Each
765	Cable Puller with 2 cranks, but without cable	225	$160.00
.....	Flexible Elbow Attachment	86	40.00

KELLEMS PULLING GRIPS

SWIVEL EYE PULLING GRIPS



Forged steel swivel eye, swaged to the strands of the Grip; varied mesh, tubular protection and endless weave (no pigtails). Made of improved plow steel strand.

For Cable Diam., In.	Medium Mesh 20"-32" Cat. No.	Price Each	Standard Mesh 32"-44" Cat. No.	Price Each	Long Mesh 44"-60" Cat. No.	Price Each
¾ to 1	K075-M	$ 5.20	K075-P	$ 6.40	.....	.....
1 to 1¼	K100-M	5.70	K100-P	7.10	K100-L	$ 8.60
1¼ to 1½	K125-M	6.20	K100-P	7.10	K100-L	8.60
1½ to 2	K150-M	6.70	K150-P	7.80	K150-L	9.20
2 to 2½	K200-M	7.50	K200-P	8.80	K200-L	10.00
2½ to 3	K250-M	8.30	K250-P	9.80	K250-L	11.00
3 to 3½	K300-M	9.10	K300-P	10.90	K300-P	12.20
3½ to 4	K350-M	9.90	K350-P	12.00	K350-P	15.00
4 to 4½	.....	.....	K400-P	13.30	K400-P	16.50
4½ to 5	.....	.....	.....	.....	K450-P	18.50

UNIVERSAL PULLING GRIPS

This is a quality single weave Pulling Grip of latest design. Swaged aluminum collar; tubular protection; varied mesh, and endless weave.

For Cable Diam., In.	Short Mesh 12"-20" Cat. No.	Price Each	Medium Mesh 20"-32" Cat. No.	Price Each	Standard Mesh 32"-42" Cat. No.	Price Each
¾ to 1	U075-A	$ 2.40	U075-M	$ 2.90	U075-P	$ 4.20
1 to 1¼	U100-A	2.60	U100-M	3.20	U100-P	4.50
1¼ to 1½	U125-A	2.90	U125-M	3.50	U100-P	4.50
1½ to 1¾	U150-A	3.20	U150-M	3.90	U150-P	4.80
1¾ to 2	U175-A	3.60	U150-M	3.90	U150-P	4.80
2 to 2½	U200-A	3.90	U200-M	4.40	U200-P	5.30
2½ to 3	U250-A	4.20	U250-M	4.90	U250-P	5.70
3 to 3½	.....	.....	U300-M	5.40	U300-P	6.20
3½ to 4	.....	.....	.....	.....	U350-P	6.60

OLD TYPE PULLING GRIPS

Flexible served eye, tubular protection. Plow steel strand.

Double Weave Only

For Cable Diam., In.	24" Long Cat. No.	Price Each	36" Long Cat. No.	Price Each	48" Long Cat. No.	Price Each
¾ to 1	T075-24	$ 3.60	T075-36	$ 4.90	T075-48	$ 6.00
1 to 1½	T100-24	3.90	T100-36	5.20	T100-48	6.30
1½ to 2	T150-24	4.30	T150-36	5.60	T150-48	6.60
2 to 2½	T200-24	4.60	T200-36	5.90	T200-48	7.00
2½ to 3	T250-24	4.90	T250-36	6.20	T250-48	7.40
3 to 3½	T300-24	5.40	T300-36	6.70	T300-48	7.80
3½ to 4	T350-24	5.90	T350-36	7.20	T350-48	8.20

KELLEMS PULLING GRIPS

KELLEMS SLACK GRIPS

For pulling slack and removing cable — a vast improvement over the Old Type Grip with "Offset Eye." Has new triple weave, varied mesh and endless weave.

For Cable Diam., In.	Closed Grip with Ring & Sling Cat. No.	Price Each	Split Grip Double Weave with Lacing Split Ring & Sling Cat. No.	Price Each
¾ to 1	KW075-A	$ 6.00	KS075-A	$ 6.30
1 to 1¼	KW100-A	6.30	KS100-A	6.70
1¼ to 1½	KW125-A	6.60	KS125-A	7.10
1½ to 1¾	KW150-A	6.90	KS150-A	7.70
1¾ to 2	KW175-A	8.40	KS175-A	9.20
2 to 2½	KW200-A	9.00	KS200-A	9.60
2½ to 3	KW250-A	9.50	KS250-A	10.00
3 to 3½	KW300-A	11.10	KS300-A	11.60
3½ to 4	KW350-A	11.60	KS350-A	12.10

In addition to the Grip, order one Yoke for each rig: No. KY-4, $3.00 each.

UNIVERSAL SLACK GRIPS

A new design with single offset eye, swaged aluminum collar, varied mesh and endless weave.

For Cable Diam., In.	Closed Grip Double Weave Cat. No.	Price Each	Split Grip Double Weave With Lacing Cat. No.	Price Each
¾ to 1	UD075-A	$ 3.40	US075-A	$ 4.00
1 to 1¼	UD100-A	3.70	US100-A	4.30
1¼ to 1½	UD125-A	4.00	US125-A	4.60
1½ to 1¾	UD150-A	4.30	US150-A	4.90
1¾ to 2	UD175-A	4.80	US175-A	5.40
2 to 2½	UD200-A	5.50	US200-A	6.20
2½ to 3	UD250-A	6.20	US250-A	7.00
3 to 3½	UD300-A	6.90	US300-A	7.80
3½ to 4	UD350-A	7.60	US350-A	8.60

	Closed Grip Single Weave Cat. No.	Price Each	Split Grip Single Weave Rod Closing Cat. No.	Price Each
¾ to 1	UC075-A	$ 2.60	UB075-A	$ 3.00
1 to 1¼	UC100-A	2.90	UB100-A	3.20
1¼ to 1½	UC125-A	3.10	UB125-A	3.40
1½ to 1¾	UC150-A	3.30	UB150-A	3.60
1¾ to 2	UC175-A	3.60	UB175-A	4.00
2 to 2½	UC200-A	3.90	UB200-A	4.40
2½ to 3	UC250-A	4.20	UB250-A	4.70
3 to 3½	UC300-A	4.60	UB300-A	5.10
3½ to 4	UC350-A	4.90	UB350-A	5.50

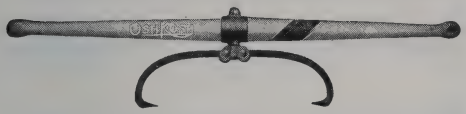
JUNIOR PULLING GRIP

For pulling multiple insulated wire through conduit.

Diam., Range, In.	Cat. No.	For Wire Sizes	Price Each
¼ to ⅜	J25	2 No. 14 or Equivalent....	$1.00
⅜ to ½	J37	2 to 6 No. 12 or Equiv.....	1.25
½ to ⅝	J50	2 to 6 No. 10 or Equiv.....	1.50
⅝ to ¾	J62	3 to 6 No. 8 or Equiv.....	1.75
¾ to 1	J75	3 to 6 No. 6 or Equiv.....	2.00
1 to 1¼	J100	2 to 4 No. 1/0 or Equiv...	2.25

OSHKOSH TOOLS

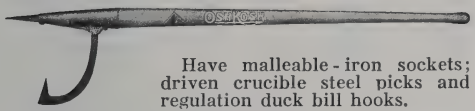
REGULAR PATTERN CARRYING HOOKS



Made for the exclusive purpose of carrying poles. The handles are made of selected air seasoned rock maple. Malleable clasp and swivel.

Carrying Hooks				Extra Handles	
Cat. No.	Diam. In.	Length Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
295	2½	4	7	593	3
296	2½	4½	8	594	4
297	2½	5	8	595	4
298	3	5	12	963	5
299	3	6	13	964	6
300	3	7	14	965	7

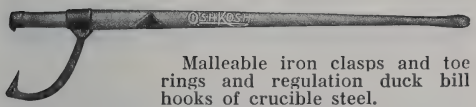
MALLEABLE SOCKET PEAVIES



Have malleable-iron sockets; driven crucible steel picks and regulation duck bill hooks.

Peavies				Extra Handles	
Cat. No.	Diam. In.	Length Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
Maple Handles					
121	2¼	4	7	541	3
122	2¼	4½	7	542	3
124	2½	4	9	544	3
125	2½	4½	9	545	4
Hickory Handles					
134	2¼	4	8	572	3
135	2¼	4½	8	573	3
137	2½	4	9	575	4
138	2½	4½	10	576	4

CANT HOOKS



Malleable iron clasps and toe rings and regulation duck bill hooks of crucible steel.

Cant Hooks				Extra Handles	
Cat. No.	Diam. In.	Length Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
Maple Handles					
188A	2¼	4	7	541	3
189A	2¼	4½	8	542	3
188	2½	4	8	544	3
189	2½	4½	8	545	4
Hickory Handles					
199A	2¼	4	7	572	3
200A	2¼	4½	8	573	3
199	2½	4	8	575	4
200	2½	4½	9	576	4

No. 10 PIKE POLE GUARD

Oshkosh pike pole pikes can be safely guarded with the pike pole guard. This guard will fit either the 2-inch or 2½-inch pike poles. It is light in weight, adding only 7 ounces to pike pole.

OSHKOSH TOOLS

A. T. AND T. PATTERN PIKE POLES

Made of Washington fir, 2½ inches in diameter in the middle and tapers to 2 inches at each end. Pike projects 4 inches from end.

Pike Poles				Extra Handles	
Cat. No.	Diam. In.	Length Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
817	2½	10	12	981	11
818	2½	12	13	982	12
819	2½	14	14	983	13
820	2½	16	15	984	14
821	2½	18	18	985	17
822	2½	20	20	986	19

STANDARD LIGHT PIKE POLES

Washington fir handles, 2 inches in diameter, not tapered. Pike projects 4 inches.

Pike Poles				Extra Handles	
Cat. No.	Diam. In.	Length Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
805	2	10	6	970	6
806	2	12	8	971	7
807	2	14	10	972	9
808	2	16	11	973	11

SPECIAL FINISH

A special flexible finish can be supplied at extra cost to prevent the pike poles from slivering or splintering. Add the letter F to catalog number for this finish.

CROW AND DIGGING BARS

Made of special tool steel, stiff and tough.

Cat. No.	Size Inches	Length Feet	Weight, Pounds
1061	1 Oct.	7	20
1062	1 Oct.	8	23
1064	1⅛ Oct.	7	26
1065	1⅛ Oct.	8	28
1066	1⅛ Oct.	9	31

TAMPING AND DIGGING BARS

Made of special tool steel, stiff and tough.

Cat. No.	Size Inches	Length Feet	Weight, Pounds
1071	1 Oct.	7	20
1072	1 Oct.	8	23
1074	1⅛ Oct.	7	26
1075	1⅛ Oct.	8	30

PLAIN DIGGING BARS

Made of special tool steel, stiff and tough.

Cat. No.	Size Inches	Length Feet	Weight, Pounds
1081	1 Oct.	7	19
1082	1 Oct.	8	21
1084	1⅛ Oct.	7	24
1085	1⅛ Oct.	8	28

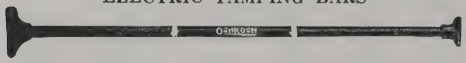
OSHKOSH TOOLS

DIGGING SPUD WITH TAMPER

A light, nicely balanced, efficient digging tool. Handle is of steel tubing with tamping head and blade shrunk tightly onto handle.

Cat. No.	Feet	Wt. Lbs. Each
852	9	20

ELECTRIC TAMPING BARS



These bars are of lighter construction than the regular heavy solid steel tamping bar. They are made of steel pipe, with malleable tampers of different size on each end.

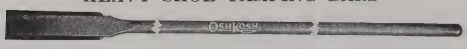
Cat. No.	Feet	Wt. Lbs. Each
1044	8	15

LIGHT SHOE TAMPING BARS

Light shoe type is made of rock maple with ¼-inch thick steel shoe securely riveted to the head. Tamping head measures 1¾ inches wide by 4 inches long.

Tamping Bars			Extra Handles	
Cat. No.	Length Feet	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
854	7	13	**1002**	7
855	8	14	**1003**	8
856	9	16	**1003A**	9

HEAVY SHOE TAMPING BARS



Heavy shoe type is made of rock maple with ½-inch thick heavy steel shoe. Handle is 1⅝ inches diameter. Tamping face is 1¼ inches wide by 3½ inches long.

Tamping Bars			Extra Handles	
Cat. No.	Length Feet	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
1054	7	13	**2002**	5
1055	8	15	**2003**	5
1056	9	17	**2003A**	6

SHORT HANDLED SHOVELS

No. 1090R

No. 1090S

Short handled or 4½-foot shovels have a special bend or crook in the handle which together with the balance resulting from its design make them easy to use. The blades are furnished in the same steel as used in the long handled shovels and spoons. Handles are made of Northern white ash, air seasoned and of best quality.

When ordering hickory handles for shovels or spoons, add the letter H to the ash handle number.

Short Handled Shovels			Extra Handles	
Cat. No.	Length Handle, Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
1090R	4½	5	**1091**	2
1090S	4½	5	**1091**	2

OSHKOSH TOOLS

WESTERN AND EASTERN PATTERN SPOONS

Western Pattern

Eastern Pattern

All spoon and shovel handles are 1⅛-inch diameter and are of perfect, straight-grained stock.

Blades of high carbon steel. Length of strap, 22 inches.

With Maple Handles

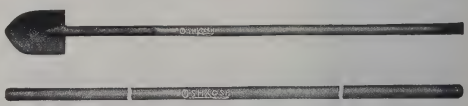
Cat. No. Western	Cat. No. Eastern	Handle Feet	Wt. Lbs. Each	Extra Handles Cat. No.	Extra Handles Wt. Lbs. Each
859	**859E**	7	10	**993**	4
860	**860E**	8	10	**994**	5
861	**861E**	9	11	**995**	6
862	**862E**	10	12	**996**	7

With Ash or Hickory Handles

When ordering hickory handles for shovels or spoons, add the letter H to the ash handle number.

1023	**1023E**	7	10	**1005**	6
1024	**1024E**	8	10	**1006**	6
1025	**1025E**	9	11	**1007**	7
1026	**1026E**	10	12	**1008**	7
1027	**1027E**	12	14	**1009**	8

STRAIGHT HANDLE SHOVELS



All shovel and spoon handles are made from straight-grained stock, 1⅛ inches in diameter.

Blades of high carbon steel. This shovel is straight from tip of blade to top of handle.

With Maple Handles

Straight Handle Shovels				Extra Handles	
Cat. No.	Length Feet	Strap Inches	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
867	7	22	8	**993**	4
868	8	22	9	**994**	5
869	9	22	10	**995**	6
870	10	22	11	**996**	7

With Ash or Hickory Handles

When ordering hickory handles for shovels or spoons, add the letter H to the ash handle number.

1032	7	22	8	**1005**	6
1033	8	22	9	**1006**	6
1034	9	22	10	**1007**	7
1035	10	22	11	**1008**	7

OSHKOSH TOOLS
D HANDLED SHOVELS

No. 1092R

No. 1092S

The handle is second growth Northern white ash, fitted with pressed steel D top. The blades are of the same quality of steel as other Oshkosh shovels.

D Handled Shovels			Extra Handles	
Cat. No.	Description	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
1092R	D Handle	4	1093	2
1092S	D Handle	4	1093	2

MASTER STRAIGHT SHOVELS

Alloy steel blades, with ash or hickory handles as desired. When ordering hickory add the letter H to the ash handle numbers.

Master Straight Shovels				Extra Handles	
Cat. No.	Length Handle, Feet	Length Strap, Inches	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
2032	7	22	8	2005	6
2033	8	22	9	2006	6
2034	9	22	10	2007	7
2035	10	22	11	2008	7

MASTER WESTERN PATTERN SPOONS

Western Pattern Spoon				Extra Handles	
Cat. No.	Length Handle, Feet	Length Strap, Inches	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
2023	7	22	10	2005	6
2024	8	22	10	2006	6
2025	9	22	11	2007	7
2026	10	22	12	2008	7
2027	12	22	14	2009	8

MASTER EASTERN PATTERN SPOONS

Eastern Pattern Spoon				Extra Handles	
Cat. No.	Length Handle, Feet	Length Strap, Inches	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
2023E	7	22	10	2005	6
2024E	8	22	10	2006	6
2025E	9	22	11	2007	7
2026E	10	22	11	2008	7
2027E	12	22	12	2009	8

When ordering hickory handles for shovels or spoons, add the letter H to the ash handle number.

OSHKOSH TOOLS
MASTER SHORT HANDLED SHOVELS

No. 2090R

No. 2090S

Master alloy steel blades, with ash handles.

Short Handled Shovels			Extra Handles	
Cat. No.	Length Handle, Ft.	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
2090R	4½	5	2091	2
2090S	4½	5	2091	2

MASTER D HANDLED SHOVELS

No. 2092R

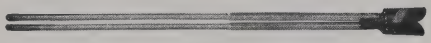
No. 2092S

The handle is second growth Northern white ash, fitted with pressed steel D top. Master alloy steel blades.

D Handled Shovels			Extra Handles	
Cat. No.	Description	Wt. Lbs. Each	Cat. No.	Wt. Lbs. Each
2092R	D Handle	4	2093	2
2092S	D Handle	4	2093	2

DIGGERS

No. 2050



No. 2051

These diggers are superior in every respect to the ordinary diggers. They are all-steel-frame with alloy steel blades welded to the frame. Designed for extremely hard work and to last a long time. Equipped with 8-foot handles made of selected Ash. Furnished in two styles as shown.

Cat. No.	Length Feet	Description	Wt. Lbs. Each
2050	8	Split Handles	13
2051	8	Two Solid Handles	14½

OSHKOSH TREE TRIMMERS

Made with a light steel head and a thin high grade saw steel knife, equipped with genuine soft old growth yellow Washington Fir handle 1½ inches in diameter, made in three sections, connected with positive locking ferrules. This tree trimmer will easily cut a 1½-inch limb. It is light and works very easily. Weight, 13 pounds.

Price, No. **915** Trimmers — On request

When ordering hickory handles for shovels or spoons, add the letter H to the ash handle number.

BARTLETT TREE TRIMMING EQUIPMENT

No. 1-W PULLEY TYPE TREE TRIMMER

This tool will sever any branch up to 1¼" diameter with the slightest effort. A special coil spring positively returns the blade to a full-cutting position.

The No. 1-W Tree Trimmer is furnished with 1¼"x1⅛" rectangular poles, in 6, 8, 10, 12, 14 and 16 ft. lengths, one piece pole or in short sections joined together with No. 156 sleeve, which has a positive locking device.

A very important feature of this new Trimmer, is the light weight, the head complete weighing only 1¾ pounds. 6 or 8 ft. octagon poles with round sleeves are obtainable if desired at **10c** per pole additional.

	Price Each
No. **1-W** 4 ft. rectangular pole with P156-2 Ferrule	$ 9.75
No. **1-W** 6 ft. rectangular pole with P156-2 Ferrule	10.30
No. **1-W** 8 ft. rectangular pole with P156-2 Ferrule	10.85
No. **1-W** 10 ft. rectangular pole with P156-2 Ferrule	11.40
No. **1-W** 12 ft. rectangular pole with Ferrule	11.95
No. **1-W** 14 ft. rectangular pole with Ferrule	12.60
No. **1-W** 16 ft. rectangular pole with Ferrule	13.25
No. **1-W** Head complete with pulley	6.70
P139—Pole Supports pair	.30

Extra Rectangular Section for All Trimmers with No. 156 Sleeve

4-ft. with Sleeve Body	$3.15
4-ft. with Body and Ferrule	4.00
6-ft. with Sleeve Body	3.95
6-ft. with Body and Ferrule	4.70
8-ft. with Sleeve Body	4.70
8-ft. with Body and Ferrule	5.55
10-ft. with Sleeve Body	5.45
10-ft. with Body and Ferrule	6.30
12-ft. with Sleeve Body	6.25

NOTE—Leather thongs for the pulley will eliminate rope wear, available if desired at **65c** each.

NOTE—Ferrules are included only when extra sections are ordered with each top section.

COMPOUND LEVER HEAD FOR ALL No. 1 TRIMMERS

With greater strength and lightness this tree trimmer head is a further refinement of the Bartlett Compound Lever principle.

Maximum protection against pole breakage is given by the steel strengthener designed to support the pole on all four sides. Clogging of hook is prevented by a special ground face. Pulley now has Oilite self-lubricating bushing for longer life.

No. 1-W Head (illustrated) is designed to fit 1¼x1⅛-inch rectangular pole.

No. 1-WE is formed to fit 1¼-inch octagon pole by use of the pole strengthener.

This hook is also supplied on the No. 1-S, 1-B, and 1-T tree trimmers.

When ordering heads specify whether for rectangular or octagon pole.

BARTLETT TREE TRIMMING EQUIPMENT

NO. 1-B BAKELITE INSULATED TREE TRIMMER

Bartlett Insulated Tree Trimmers are designed with the idea of giving the maximum amount of protection to the operator. Tested at 105,000 volts.

The Insulator used in our Standard No. 1-B Tree Trimmer is made of ½-inch round bakelite, 30 inches long, and is securely fastened to the short top and bottom pull rods. The wood pull lever, to which the rope is attached, is placed 42 inches from the head. Poles of the highest grade are used in our trimmer and the wood is treated with shellac to prevent moisture absorption.

These trimmers can be furnished in lengths from 6 to 16 feet or, if wanted, can be supplied with a top pole and extra sections to make the desired length, such as a 12-ft. pole and one 4-ft. section to make a 16-ft. pole.

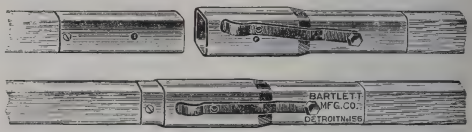
This tool is operated by a rope which, together with the wood pole, wood pull lever handle and insulator, gives the user the greatest possible protection.

Length Feet	Description	Price Each
6	one-piece pole, with P156-2 Ferrule	$15.80
8	one-piece pole, with P156-2 Ferrule	16.35
10	one-piece pole, with P156-2 Ferrule	16.90
12	one-piece pole, with P156-2 Ferrule	17.45
14	one-piece pole, with P156-2 Ferrule	18.10
16	one-piece pole, with P156-2 Ferrule	18.75
No. **1-B** Head complete		5.95

Note: Ferrules are included only when extra sections are ordered with each top section.

Extra sections listed under No. 1-W.

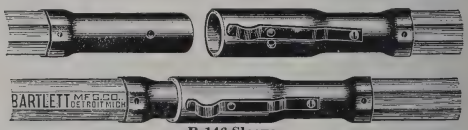
STEEL SLEEVES



P-156 Sleeve

Designed for adding sections to the handles of the No. 1-B, 1-S, 1-T, 1-W Trimmers, No. 44 and Safety Back Pole Saw. It is also suitable for switch sticks and lamp changers.

When the Ferrule is inserted into the sleeve body, a pin automatically drops into place, preventing the two sections from pulling apart. By means of this sleeve the added section becomes rigid as if it were a one-piece pole. When Octagon poles are used the P-146 round sleeve is attached.



P-146 Sleeve

No.	Description	Price Each
146 or **156**	Sleeve complete	$2.60
146–1 or **156–1**	Sleeve Body	1.75
146–2 or **156–2**	Sleeve Ferrule	.85

BARTLETT TREE TRIMMING EQUIPMENT

NO. 1-S SPECIAL LEVER TREE TRIMMER

This tool is exactly like the No. 1-T Trimmer, except that it is provided with a wood pull lever handle, 42 inches below the head, in place of an all steel lever. The reason for this wood handle is that many operators use the rope when trimming at a distance but prefer to operate the lever direct by hand at close range and the wood handle not only makes this more convenient but adds a safety feature as well.

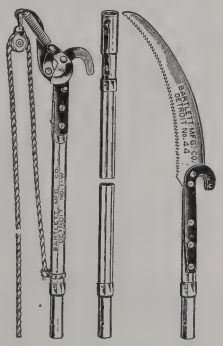
No. 1-S—One-Piece Pole

Length Feet	Description	Price Each
6	with P156-2 Ferrule	$10.85
8	with P156-2 Ferrule	11.40
10	with P156-2 Ferrule	11.95
12	with P156-2 Ferrule	12.50
14	with P156-2 Ferrule	13.15
16	with P156-2 Ferrule	13.80
No. 1-S Head Complete		5.95

NOTE—Ferrules are included only when extra sections are ordered with each top section.

WE COMBINATION PRUNER AND SAW OCTAGON POLE

This Combination has two separate tools for head sections mounted on short pieces of 1¼-in. octagon Sitka spruce poles, with a round ferrule (No. 146-2) attached to the lower end and extra 6 or 8-ft. octagon section fitted with round sleeve body which engages the ferrule and locks securely. This makes it possible to use either head with the same handle section and several intermediate lengths can be added if desired.



For convenience in shipping, the head sections may be ordered without extra sections.

Description	Price Each
WE Head Section, 30" overall	$7.60
No. 44-WE Head Section, 30" overall	6.40
8-ft. Intermediate Section with No. 146-1 and 2 body and ferrule	5.55
No. 146-1 Sleeve Body, complete	1.75
No. 146-2 Sleeve Ferrule	.85

Where No. 1-WE head section is ordered without extra sections, sufficient rope for one extra 8-ft. section will be furnished.

BARTLETT TREE TRIMMING EQUIPMENT

NO. 1-WE PIKE POLE ATTACHMENT

This drop-forged pike with hardened point has been designed for use with the No. 1-WEDF Combination. It fits the extra sections and the self-locking sleeve securely holds the pike in place when testing poles. Although regularly furnished with the round ferrule, the P156-2 rectangular ferrule will be furnished if desired.

Price, No. **1-WE-Pike**, 8-in. overall.....each **$3.15**

NO. 44 POLE PRUNING SAW

For limbs larger than the capacity of the No. 1 Tree Trimmer. Pruning saw has 16-inch peg tooth blade, having 7 teeth per inch. Saw is securely held by the head, which is stamped from stiff cold rolled steel and fastened to pole by three bolts.

The head is made of two strips of steel riveted together so as to secure a truss shaped support for the blade, which is fastened between the two sides. The hook serves as a means for hanging the tool on a limb when not in use.

The saw can be adjusted to three angles to suit operator's position and the blade is ground for clearance, which prevents binding.

No. 44— 4-ft., with ferrule	$8.60
No. 44— 6-ft., with ferrule	9.05
No. 44— 8-ft., with ferrule	9.50
No. 44—10-ft., with ferrule	9.95
No. 44—12-ft., with ferrule	10.40
No. 44—14-ft., with ferrule	10.80
No. 44—16-ft., with ferrule	11.25

Adjustable spring clip attached to the head allows blade to be turned down against pole for safety. Also serves as a paint brush clip. Extra cost, attached complete, $0.50.

NO. 777 TWO-HAND PRUNER

Designed on scientific principles. Because of the fact that the majority of men are right-handed, the blade has been placed on the opposite side from the general custom. This permits the blade to be placed next to the body or main limb of tree with the hook handle held in left hand, while the right operates the blade.

This pruner has more desirable features and easier cutting qualities than have ever before been combined in a single tool. Both blade and hook are hardened drop-forged crucible tool steel.

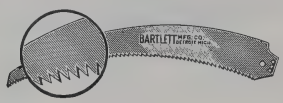
No. **777**—White ash handle, with 10-inch strap ferrule $5.75

No. **777**—White ash handle, riveted and 4½-inch double ferrule..... 5.50

BARTLETT TREE TRIMMING EQUIPMENT

DETAILS OF POLE SAW BLADES

For No. 44 and No. 44WE Combination



No. 4402—16-in. and No. 4416 have a similar design of peg tooth but the No. 4416 has less curve than No. 4402 and cuts the full length of the stroke. Either one can be used on the No. 44 head.....**$2.85**

No. 4402—18-in. has the same shape and tooth as the No. 127 Paragon Saw, except punched for No. 44 Pole Saw.....**$3.00**

No. 4424B—24-in. blade has same style teeth as No. 124B Special Utility Saw.....**$5.00**

No. 4302 has a drag tooth and can be supplied either 12-in., **$2.10**; 14-in., **$2.35**; 16-in., **$2.85.**

No. 06WE has a 3-inch section of peg teeth and the balance of the blade has speed teeth.....**$3.00**

No. 012WE has speed teeth only and is made of heavier gauge **$3.00**

NO. 50 SAFETY BACK POLE SAW

The bent wood back tapers from the regular standard size of pole to a narrow point which enables the user to operate this saw in close crotches. Blade can be turned to three positions by simply loosening the thumb nut. Blade is 36 inches long by ⅞-inch wide, having a draw cut, 5 points per inch. Highest-grade steel blades. Use No. 390 slim file.

Description	Price Each
5-ft. top section with blade and No. 156-2 ferrule	**$11.00**
Extra 4-ft. section with sleeve body	**3.15**
Extra 6-ft. section with sleeve body	**3.95**
Extra 8-ft. section with sleeve body	**4.70**
Extra 10-ft. section with sleeve body	**5.45**

No. 45 POLE SAW

No. 45 is a bracket type Pole Saw similar in design to No. 18 Hand Saw; it has a 14½-inch blade, 8 points to the inch, and a tightening screw enables the operator to keep the blade at the proper tension. Furnished only with a 10-ft, 1¼x1⅛-inch pole. While this saw is preferred by many, it will not cut as large a limb as the No. 44, due to its construction. The hook is for pulling out cut branches or for hanging saw in tree when not in use.

	Description	Price Each
No. **45**	Pole Saw, 10 ft. (wt. 4½ lbs.)	**$9.50**
No. **45**	Saw without Pole (wt. 2 lbs.)	**6.00**
No. **4502**	Extra Blade	**.50**
No. **4503**	End Swivel with wing nut	**1.00**

BARTLETT TREE TRIMMING EQUIPMENT

SPECIAL UTILITY SAWS

No. 124B

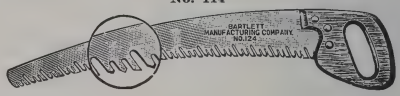
No. 114B

The No. 124B shows the type of fast-cutting teeth which are easily filed without use of gauges. The only tools required are a file and joiner. No. 114B is similar to No. 124B except that it has a horn at top of handle. Length of blade is 26 inches. 4 points per inch.

Description	Price Each
No. **124B**—24-inch Saw, without snap	**$5.75**
No. **114B**—26-inch Saw, without snap	**5.95**
No. **114B**—26-inch Saw, with snap	**6.45**

No. 114 RAPID CUT PRUNING SAW

No. 114



No. 124

This Pruning Saw is named for its speed in cutting. The teeth are diamond point with well shaped raker. As a special feature it can be obtained with or without the automatic "on" and "off" belt snap. The handle has an extra large grip permitting gloves and is comfortably shaped for the hand.

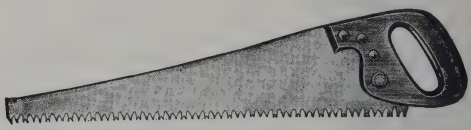
	Price Each
No. **124**—24-inch Saw*, without snap	**$5.75**
No. **114**—26-inch Saw, without snap	**5.95**
No. **114**—26-inch Saw, with snap	**6.45**

*No. 124 has same handle as No. 124B.

NO. 170 FORESTER'S SAW

A splendid saw for large or small limbs, 4½ points to the inch. The handle is extra large to permit the use of gloves. Use No. 395 cant file.
Price, No. **170**—26-in. Blade.....each **$4.50**

NO. 41 UTILITY SAW



The special handle is extra large. No. 41 Saw has 20-in. or 24-in. tuttle-tooth blade and is very popular with utility companies. It will sever the largest branches. Use No. 390 slim file.
Price, No. **41**—20-in. Blade.....each **$4.80**
Price, No. **41**—24-in. Blade.....each **5.50**

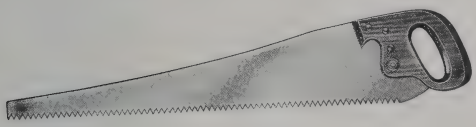
BARTLETT TREE TRIMMING EQUIPMENT

NO. 127 PARAGON PRUNING SAW

Furnished in fourth lengths. Made of silver steel. Has extra large hand hole and is very popular with linemen. It has a draw cut and considerable clearance, resulting in rapid work. Use No. 390 slim file.

No.	Length	Each	No.	Length	Each
127	18-in.	**$3.45**	**127**	24-in.	**$4.25**
127	22-in.	**3.95**	**127**	26-in.	**4.55**

NO. 27 TREE EXPERT'S SAW



No. 27 has the Davey type handle, but the teeth are special, being 6 points per inch, beveled forward. Used by particular tree experts. Use No. 390 slim blunt file.

Price, No. **27**—26-in. Blade.....each **$6.85**
No. **28**—28-in. Blade.....each **7.50**

TREE PAINT

1-Gallon Can

Black pruning compound. Made with a pure Egyptian asphalt base, this tree paint contains only ingredients which are helpful to the healing of tree wounds. Will not crack or blister.

Especially adaptable to fall and winter trimming work because it retains its liquid consistency under freezing temperatures.

Liquid used for wound dressing; plastic for tree surgery. If necessary, thin only with raw linseed oil.

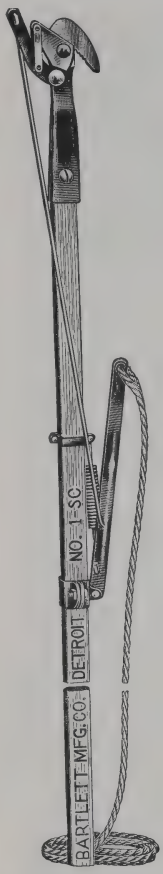
Tree Paint	Liquid	Plastic	Tree Paint	Liquid	Plastic
½-pt. can	**$0.40**	**$0.50**	5-gal. drum	**$8.25**	**$10.25**
1-pt. can	**.60**	**.70**	30-gal. drum	**40.00**	.....
1-qt. can	**1.25**	**1.40**	50-gal. drum	**65.00**	.....
1-gal. can	**2.25**	**2.50**	.....	.....	.....

Full Cartons, packed 48 Half Pint or Pint Cans.
Full Cartons, packed 24 Quart Cans.
Full Cartons, packed 6 Gallon Cans.

Also furnished in rectangular one-gallon cans and 3-inch opening with screw cap for easy pouring, at **$0.20** per can additional.

Barmanco, Black Water Mixing....per gallon **$1.50**

BARTLETT WIRE CUTTER



No. 1-SC WIRE CUTTER

The necessity for a tool to be used in severing the binding wire on carloads of poles has long been evident and Bartlett has now produced a Wire Cutter that can be operated at a safe distance from the load and capable of cutting 4 strands of No. 7 bare wire and flat narrow steel straps at one stroke.

This tool is made with a sturdy head, having a hardened hook with serrated edge, and the blade is made of crucible tool steel and operated by a pull lever, to which double links are attached.

The Compound Lever action of this side-cutting tool is similar to the patented Compound Lever used in many of the Bartlett cutting tools.

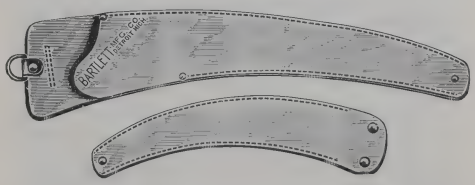
The cutting power is three to one at the head and further increased by the lever action on the side of the pole to which the rope is attached.

The poles are 1¼x1⅛-inch straight grained laminated, treated to prevent moisture absorption.

Furnished in 12-ft. lengths, unless otherwise ordered.

Price, No. 1-SC Wire Cutter .....each **$24.00**

LEATHER SAW SHEATHS



For the protection of the saws as well as the operator, we supply oak-tanned leather Saw Sheaths as follows:

Sheath for Saws:		Each	Sheath for Saws:		Each
No. **127**—20-in.		**$4.05**	No. **41**	24-in.	**$5.40**
No. **127**—22-in.		**4.20**	No. **170**	26-in.	**4.60**
No. **127**—24-in.		**4.30**	No. **124B**	24-in.	**4.30**
No. **127**—26-in.		**4.40**	No. **114B**	26-in.	**4.40**
No. **4402**—16-in.		**3.95**	No. **114**	26-in.	**4.40**
No. **41**—20-in.		**5.10**	No. **27**	26-in.	**5.45**

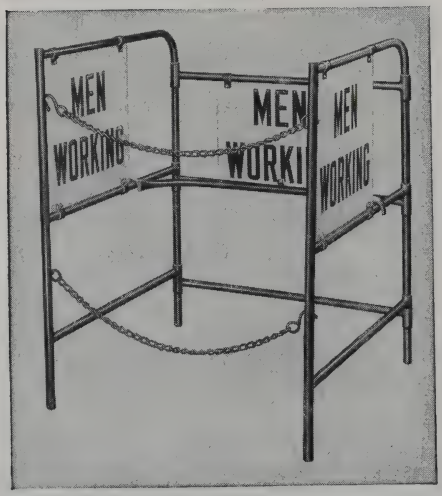
COPE AERIAL AND GROUND TENTS

No. 562 AERIAL TENT AND COVER

The Aerial Tent, when opened, measures 52x48 inches and hangs to a full length of 8 feet 8 inches. The frame work is fabricated of steel and pipe sections which fold into a compact bundle. A patented locking device securely fastens the whole tent frame to the messenger strands. The tent is made of 10 oz. U.S. Army duck, double hemmed at seams.

COPE MANHOLE GUARD RAILS

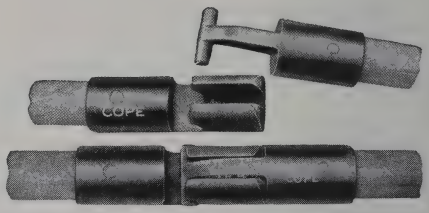
TYPE 402



Specifications and prices on application.

COPE CABLE TOOLS

QUICK COUPLING CONDUIT RODS



The simplest and most efficient conduit rod ever devised. Though light and flexible they stand up under long, hard wear. They couple with a quick, easy motion and lock fast, permitting no play whatsoever.

The sticks are turned from the best grade of straight grained, second growth hickory, seasoned for five years. A well sanded finish and an oil toughening process insures ease of handling and long life to the rod.

The couplings are of the best grade, well annealed, malleable iron; power driven on the sticks and securely riveted.

Rods are supplied in 2, 3 and 4 foot lengths with a straight shaft of 1 inch in diameter.

Cat. No.	Description	Wt. Lbs. Per 100
461	2 Ft. Rod, Straight Stick	105
462	3 Ft. Rod, Straight Stick	205
463	4 Ft. Rod, Straight Stick	245

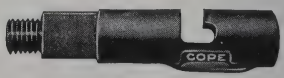
SCREW COUPLING CONDUIT RODS

Couplings are cast in octagon shape of Government bronze with ¾ inch U. S. standard threads. The sticks are the same prime quality used in the Quick Coupling Rods.

Two sizes of couplings are supplied, both having the same standard thread. For lightness and flexibility, the ⅞ inch stick and small couplings are recommended, and for strength, the heavier couplings and 1 inch stick should be used.

Cat. No.	Size Inch	Description	Wt. Lbs. Per 100
481	⅞	3-ft. Rod, Straight Stick	155
482	⅞	4-ft. Rod, Straight Stick	185
483	1	3-ft. Rod, Straight Stick	195
484	1	4-ft. Rod, Straight Stick	235

No. 490 ROD ADAPTER



This tool is designed to make the Quick Coupling Rod available for use with any conduit tool equipped for screw coupling or vice versa. Weight each, 2 pounds. Cat. No. 490.

Prices on request.

COPE CONDUIT TOOLS

COPE CONDUIT TOOLS

The complete line of conduit tools includes every practical device ever found necessary in laying and cleaning conduits.

Illustrations — Top to Bottom

No. 270 Jar Hammer—used in connection with all types of cutters for removal of stubborn obstructions. The heavy piston-like hammer delivers a forceful blow directly at the cutting tool. Weight, 8 pounds.

Dog Tooth Cutters—preferred by many for their additional cutting ability.

Cat. No. Round	Cat. No. Square	Size, Inches	Weight Each, Lbs. Round	Weight Each, Lbs. Square
241	**244**	3	10	14
242	**245**	3½	13	17
243	**246**	4	16	20

Concrete Cutters—for cutting away cement and other obstructions. Supplied in single or double end styles in any diameter.

3 Inch Cat. No.	3 Inch Wt. Lbs.	3½ Inch Cat. No.	3½ Inch Wt. Lbs.	4 Inch Cat. No.	4 Inch Wt. Lbs.
		Single End Round			
211	10	**212**	13	**213**	16
		Single End Square			
214	14	**215**	17	**216**	20
		Double End Round			
217	6	**218**	8	**219**	10
		Double End Square			
220	9	**221**	11	**222**	13

Laying Mandrels—of well-seasoned maple with a leather wiping washer on rear end and a coun- a leather wiping washer on rear end and a countersunk steel hoop and cutting edge on forward end.

Cat. No.	Size, Inches	Wt. Each, Lbs.
261	3 x 36	14
262	3½ x 36	17
263	4 x 36	20

Test Mandrels—for testing conduits after laying, with cutting edges for removing light obstructions. Supplied in any diameter.

Type	3 Inch Cat.No.	3 Inch Wt.Lbs.	3½ Inch Cat.No.	3½ Inch Wt.Lbs.	4 Inch Cat.No.	4 Inch Wt.Lbs.
Round	**311**	5	**312**	6	**313**	7
Square	**314**	6	**315**	7	**316**	8

Flexible Mandrel—for testing conduits with bends and for cutting out heavy obstruction. Will withstand over 5,000 pounds pull.

Cat. No.	Size, Inches	Wt. Each, Lbs.
254	3	15
255	3½	20
256	4	24

Sand Scoop—for removing loose sand and silt. Supplied in any size.

Cat. No.	Size, Inches	Wt. Each, Lbs.
302	3 x 15	10
303	3½ x 18	13
304	4 x 20	16

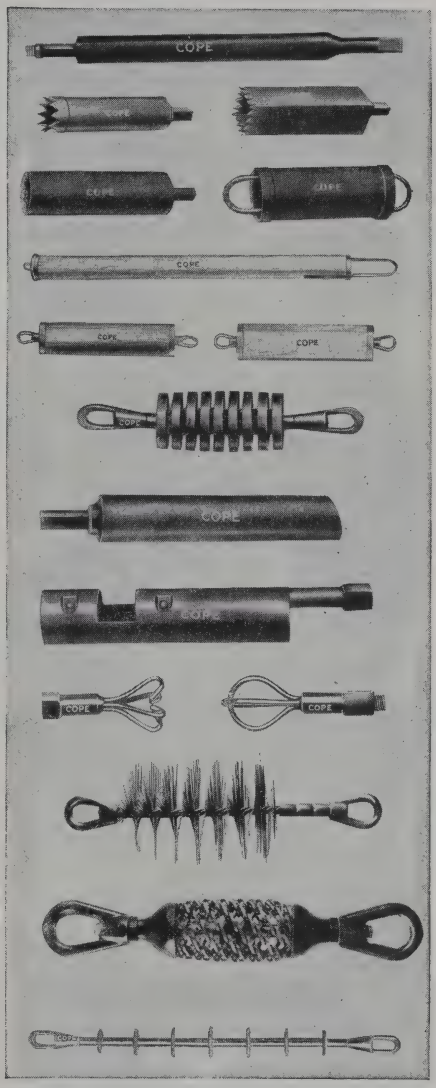
Pick Up—for recovering tools or rods lost in conduit. Two steel shutters with beveled notches and spring action offer positive pick-up action. Weight each, 8 pounds.

Rod Grapples—for use in long conduits where rodding from both ends is necessary. The four hooks on the one tool and the two loops on the other engage with positive action. Weight per pair, 2 pounds.

Wire Brush Cleaner—for all size conduits. They have flat steel bristles which will remove all sand and light obstructions.

3 Inch Cat. No.	3 Inch Wt. Lbs.	3½ Inch Cat. No.	3½ Inch Wt. Lbs.	4 Inch Cat. No.	4 Inch Wt. Lbs.
		Single End			
321	2	**322**	2½	**323**	3
		Double End			
331	2	**332**	2½	**333**	3

Prices on request.



Criss Cross Cleaner—with its multitude of edges and flexible spring formation makes it self-conforming and highly effective for cutting and removing all foreign matter in duct.

Cat. No.	Description	Wt. Lbs.
228	3 inch Criss Cross Cleaner	5
229	3½ inch Criss Cross Cleaner	5
230	4 inch Criss Cross Cleaner	5

Washer Duct Cleaner—for final wiping and cleaning of conduit. Weight each, 8 pounds.

Prices on request.

COPE CABLE TOOLS

DRAWING-IN PROTECTORS

Made of heavy cast brass, machined and finished with a smooth, bell shaped mouth. Used in the mouth of the conduit to protect the lead sheath of the cable from injury while it is being drawn into the conduit.

Cat. No.	Size Conduit Inches	Wt. Lbs. Each	Cat. No.	Size Conduit Inches	Wt. Lbs. Each
42	2 Round	1½	**44**	4 Round	4
42½	2½ Round	2	**44½**	4½ Round	4½
43	3 Round	3	**45**	3 Square	4½
43½	3½ Round	3½	**46**	4 Square	5

No. 370 SAFETY COMPOUND KETTLE

Double flues extend through the kettle bottom and up and out the sides. These conduct the heat to every part of the compound and insure a uniform melting, thereby preventing all danger of explosion. The short lip spout does away with all clogging and allows free pouring.

Made of heavy steel, welded and brazed throughout, with an extra heavy bottom which is inset 1 inch from the base. The tight fitting cover prevents loss of compound. Capacity, 3 gallons.

Diameter, 10 inches; height, 12 inches; weight, 10 pounds. Catalog No. 370.

No. 20 CABLE BENDER

An adjustable yoke which permits work in close quarters with the seven position handle. By simply pulling back on the sleeve the ratchet is released, permitting the handle to be placed in any position desired. The wide bearing surfaces and rounded edges of the shoes absolutely prevent injury or deformation of the cable sheath.

The yoke and arm are made of alloy steel castings with handle of heavy wall steel tubing. Every cable bender is given a thorough load test before leaving the plant.

Overall dimensions, 36 inches; weight, 15 pounds. Catalog No. 20.

Prices on request.

COPE CABLE TOOLS

No. 500 ROD PULLER

The Cope Rod Puller is made to facilitate rodding of long conduit lines where the weight of the rod becomes a controlling factor. It can be placed on the rod at any point and can be used for either pulling or pushing by reversing the tool. It exerts a firm pressure on the stick without cutting or otherwise injuring rod. This tool is made of the best grade certified malleable iron. Weight each, 2½ pounds.

CABLE PULLING RIGGING

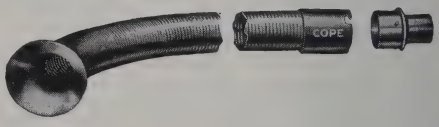
The Cope Cable Pulling Rigging is designed to provide a direct pull through the conduit. When in the manhole, the lower sheave may be placed opposite the conduit with the upper sheave above the street level to lead to the winch.

This husky rigging is constructed of 6 inch, 8.2 pound channel; securely welded to spacing members of the same size. The two sheaves with 10 inch minimum diameter have large, well finished grooves to prevent injury and accommodate cables up to 3½ inches in diameter.

Each sheave is mounted on a 1 inch steel shaft and turns on a graphite bronze bushing. The mounting holes in the side skids are 6 inch centers.

Cat. No.	Sizes, Feet	Wt. Lbs. Each
111	9	235
112	10	250
113	12	280

CABLE FEEDER



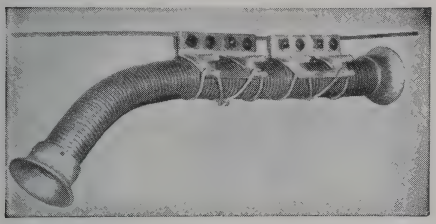
To the heavy 4 inch galvanized, flexible steel tubing is securely fixed a brass bell casting, finely machined to a finish. To the conduit end is brazed a steel sleeve which will accommodate various size brass nozzles to fit the varying sizes of conduits.

Guides			Nozzles	
Cat. No.	Length Feet	Wt. Lbs. Each	Cat. No.	Diameter Inches
71	9	40	**82**	2
			82½	2½
72	12	50	**83**	3
			83½	3½
73	16	65	**84**	4
			84½	4½
74	20	80	**85**	5

Prices on request.

COPE CABLE TOOLS

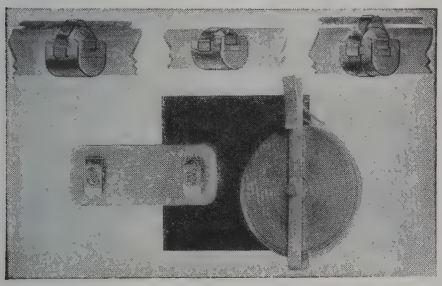
AERIAL CABLE FEEDER AND STRAIGHTENER



Indispensable for pulling in aerial cable. The wide mouth aluminum bells and flexible steel tubing positively prevents injury to cable or sheath. The holding clamps which securely grip the messenger wire can also be used for deadending and splicing work.

All interior surfaces are smoothly finished to accommodate up to 3½ inch cables. Complete feeder consists of 5 ft. tube and 2 pairs of malleable iron clamps. Extra lengths of tubing and holding and splicing clamps supplied on order. Weight, complete—26 pounds.

CABLE BANDS



Cope Cable Bands afford the means of hanging cables quickly, easily and permanently. No special tools necessary, the simple use of a pair of pliers turns the trick. Ring cutting dangers are eliminated; no buckling, sagging or creeping. Splicing joints can be firmly and securely held, thereby preventing joint cracks and leaks.

The pad of pure zinc or copper is obtainable in any length to suit any size cable or sleeve. The width of 1¼ inches provides a good "stirrup" or bearing surface.

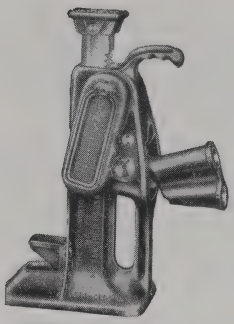
The supporting strip is of the same material and is supplied in 100 ft. coils. A belt reel is available for carrying the coil conveniently and permitting quick easy motion in affixing the bands.

Cat. No.		Cable Dia.	Wt. Lbs. Per 1000
11	No. 2	for ¾"	21
12	No. 2½	for 1 3/16"	26
13	No. 3	for 1⅝"	30
14	No. 3½	for 2"	35
15	No. 4½	for 2⅝"	45
16	No. 5	for 3⅛"	50
17	No. 6	for 4" sleeve	60
18	No. 8	for 5" sleeve	80
19	No. 10	for 6" sleeve	100
9	½" strip in coils		5 lbs. 100'

Prices on request.

DUFF-NORTON JACKS

DUFF-NORTON GENUINE BARRETT AUTOMATIC LOWERING JACKS



No. 514-MT

Made in 5 to 20-ton capacities, these jacks are built in a large variety of styles and sizes. The 5-ton type is a sturdy, depedable mine and industrial jack suitable for general lifting service. These jacks can be ratchet lowered or dropped instantly (tripped) when not in use.

Automatic Lowering

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	List Price
514-MT	5	14	7½	31	**$27.00**
516-MT	5	16	9½	34	**29.00**
521-MT	5	21	14½	41	**32.50**

GENERAL-PURPOSE JACK AND POLE JACK

The new pole jack possesses many new features that assure increased service and safety and make it unquestionably the most efficient of all jacks for lifting, straightening or moving poles of all kinds.

With No. 500, a steel operating lever, chain and I-beam base are furnished when purchased complete.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	List Price Complete	List Price Without Chain
500	15	37½	23	250	**$110.00**	**$99.50**

DUFF-NORTON GENUINE BARRETT 4-WAY GENERAL-PURPOSE JACK

No. 1523

Exceptionally useful and dependable. Combines a number of lifting applications including (1) Straight Lifting with head, (2) chain Lifting, (3) Hook Lifting, and (4) Foot Lifting. Hinged base permits useful lifting at various angles and is equipped with positive locking latch for upright lifting. Double socket lever aids effective operation in close and cramped quarters. All working parts are fully enclosed and protected from dirt. No loose pieces, bolts or nuts to adjust within the jack.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	List Price Complete	List Price Without Chain
1523	15	23	12½	98	**$84.00**	**$75.75**

DUFF-NORTON JACKS

DUFF-NORTON BELL-BOTTOM JACK SCREWS

Ease of operation is an important feature of the Duff-Norton Jack Screw. As the load is lifted, the weight is carried on a full complement of Chrome Molybdenum Steel Balls, which greatly reduce friction.

The Duff-Norton Bell-Bottom Jack Screw has a solid, one-piece base which gives maximum strength, and prevents mud and sand from entering. Double reinforced collar and a one-piece steel screw with an unbreakable drop-forged steel top assure dependability.

To insure safety and full rated lifting power, always use Duff-Norton Heat Treated Operating Levers, forged from Special High Carbon Steel.

Size Screw and Height Stand Inches	Height Overall Closed Inches	Height Overall Extended Inches	Capacity Tons	Wt. Each, Lbs.	List Price Each Jacks**	List Price Special Operating Lever
1¼ x 6	8¾	12¼	10	9	$4.60	$0.90
1¼ x 8	10¾	16¼	10	11	5.10	.90
1¼ x 10	12¾	20¼	10	13	5.70	.90
1½ x 8	10¾	15¾	12	14	6.40	1.20
1½ x 10	12¾	20¾	12	15	7.10	1.20
1½ x 12	14¾	23¾	12	19	7.90	1.20
1¾ x 10	13½	21	16	21½	8.60	1.50
2 x 8	11¾	16¾	20	21	9.00	2.40
2 x 10	13¾	20¼	20	25	10.10	2.40
2 x 12	15¾	24¾	20	29	11.30	2.40

**Price of Jack does not include lever bar.

CABLE REEL JACKS—SINGLE-ACTING

Designed to meet the special requirements of telephone and cable companies, as well as other users of jacks for handling cable reels of various sizes.

Recommended for general outdoor service for cable reels up to 90 inches in diameter. Oak base, quick detachable clamps and steel operating lever.

No. 1022-CR

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	List Price
524-MCR	5	21	14	68	$50.00
1022-CR	10	38	12	100	82.00
1522-CR	15	39	11	138	110.00

AUTOMATIC LOWERING CABLE REEL JACK

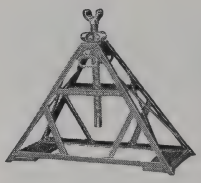
No. 1030-CR

Particularly adapted for heavy cable reels 36" to 84" in diameter, and for outside work where uneven ground conditions are encountered. Firmly attached to sturdy T-Frame Base, sectioned to prevent warping. Jack fitted with threaded rods for adjustment. Furnished in pairs — one left and one right. Top hook for 3" diameter spindles—two lower hooks for 2½-inch spindles.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	List Price
1030-CR	10	30	14	110	$92.00

DUFF-NORTON JACKS

SCREW TYPE CABLE REEL JACKS



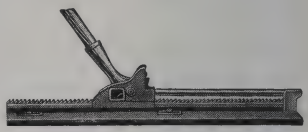
No. 530-CR

Rugged, reliable and efficient. Simple in design. Lifting hook accommodates up to 2¼-inch diameter spindles.

Easy to operate — lift curved cap to reel spindle, spin three-way nut down to frame, and insert ¾-inch steel bar in three-way nut to turn.

Jack No.	Capacity Tons	Height Inches	Raise Inches	Weight Pounds	List Price
520-CR	5	20	11½	66	$32.00
530-CR	5	30	16½	90	42.00

DUFF-NORTON PIPE FORCING JACKS



No. 125

Used for laying water, gas and other pipe under lawns, railroad crossings, streets, etc. No. 125 will force pipe, from ¾ to 4 inches, through favorable ground conditions, eliminating digging long trenches. Furnished with wood operating lever.

Jack No.	Capacity Tons	Length Feet	Travel Feet	Weight Pounds	List Price
125	15	8	7	224	$150.00

DUFF-NORTON EXTENSIBLE STEEL TRENCH BRACES

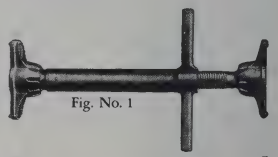


Fig. No. 1

3 Way Nut

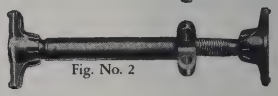


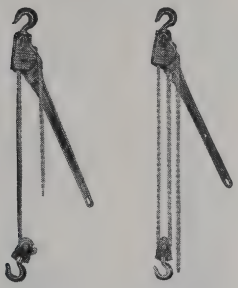
Fig. No. 2

Drop-forged nut furnished unless three-way nut (for pinch bar use) is specified. (Fig. 1 and 2). Adjustable to any angle—adaptable to any trench. Lugs on face of shoe sink deeply into face of sheeting and hold firmly. Easily adapted to any width trench by using longer or shorter lengths of standard black pipe.

Brace No.	Pipe and Screw Diam. Inches	Length of Brace Closed Inches	Length of Screw Inches	Safe Exten. of Screw Inches	Weight Pounds per Dozen	List Price per Dozen
1001	1½	16	10	6	180	$69.00
1002	1½	18	12	7	200	69.00
1003	1½	21	14	8	212	72.00
1004	1½	24	14	8	221	72.00
1005	1½	27	16	9	240	78.00
1006	1½	30	16	9	247	78.00
1007	1½	36	18	10	273	81.00
1008	1½	42	18	10	300	84.00
1009	1½	48	18	10	325	87.00
1011	2	36	18	10	538	153.00
1012	2	42	18	10	564	156.00
1013	2	48	18	10	580	159.00
1014	2	54	18	10	608	162.00
1015	2	60	18	10	630	165.00

COFFING SAFETY-PULL RATCHET LEVER HOISTS

Model A-G
¾ Ton
Weight
14 lbs.



Model A-T-G, Convertible
1 Chain, ¾ Ton, 112" Lift
2 chain 1½ Tons, 57" Lift

Models A-T-G, F-T-G and Z-G hoists are easily converted by unsnapping the special snap hook from connecting link at bottom of hoist and allowing snap hook to act as a lug preventing end of chain from passing through super block, as shown in second illustration from left at top of page.

Model F-G
1½ Tons
Weight
25 lbs.

Model F-T-G
Convertible
1 Chain, 1½ Tons, 112" Lift
2 Chain, 3 Tons, 57" Lift

Model Z-G
Convertible
3 Chain, 4½ Tons, 72" Lift
4 Chain, 6 Tons, 53" Lift

The Coffing Safety-Pull ratchet lever hoist is the safest hoist built because it is the only hoist equipped with a dual ratchet and pawl assembly, independent of each other, and the handle is always under control.

Automatic stops prevent handle from spinning in case hand should slip off handle. Reversible handle permits operating hoist in any position.

Safety-valve handle, that is, handle will bend before chain will break or hooks will straighten out.

The Safety-Pull has the free chain feature. That is, when there is no load on hoist a slight pressure on thumb latch allows load chain to be pulled through the hoist, either up or down, without operating the handle.

Special designed hooks of drop forged, heat treated alloy steel. Frame and lever parts are of certified malleable iron. Sprockets and ratchets are of alloy steel, heat treated and ground.

Capacities range from ¾ to 15 tons and unit weights from 14 to 150 lbs. All Coffing hoists are factory tested at 100 per cent rated capacity.

The double pawl hoist has a decided advantage when working in close quarters where a full stroke of the lever is not permitted as the load can be raised or lowered with a half stroke of lever.

COFFING'S SAFETY LOAD BINDER

Model A Safety Binder

Weighing only 11½ lbs., will boom a load of 3,000 lbs. Standard lift two feet. Minimum distance between grab hooks, 15 inches .....price **$23.50**

Extra chain per ft. **$1.40.** Super Attachment (Special iron block) **$6.75.**

Model F Safety Binder

Weighing only 24 lbs., will boom a load of 6,000 lbs. Standard lift two feet. Minimum distance between grab hooks, 18½ inches .....price **$31.50**

Extra chain per ft. **$2.75.** Super Attachment (Special iron block) **$8.75.**

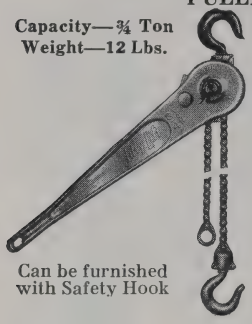
Specifications and Prices on Single Pawl Ratchet Hoists

Model	*AG	*ATG	*FG	*FTG	ZG4½	ZG6	WG9	WG11	WG13	WG15
Rated Capacity in Tons	¾	1½	1½	3	4½	6	9	11	13	15
New Weight in Pounds	14	17	25	34	49	59	120	130	140	150
Minimum Distance Between Hooks	13"	15"	16"	17"	25"	25"	30"	30"	30"	30"
Lifting Speed Per Minute	36"	18"	48"	24"	18"	12"	9.6"	8"	7"	6"
Pounds Required on Lever to Lift Rated Capacity	56	60	116	120	124	124	124	124	124	124
Standard Lift in Inches	56½	57	56½	57	51	53	60	60	60	60
Extra Chain Per Lifting Foot	$1.40	$2.80	$2.75	$5.50	$8.25	$11.00	$13.75	$16.50	$19.25	$22.00
Price	$44.00	$54.50	$61.40	$78.00	$140.00	$150.00	$298.00	$320.00	$340.00	$370.00
Super Attachment (Special Iron Block):	$6.75		$8.75							

*For Models A-G, A-T-G, F-G and F-T-G with intermediate locking pawl add **$6.50** to net price shown above.

BLACKBURN JIFFY-LIFT HOIST AND PULLER

Capacity—¾ Ton
Weight—12 Lbs.



Can be furnished with Safety Hook

The Jiffy-Lift Hoist and Puller is an efficient, versatile, time saving tool designed to pull or lift at any angle. It is easily operated by rotating the lever or handle through a short arc, as simple as operating a pump handle. An exclusive feature is a single lever control for raising, lowering and automatic free wheeling, making it both simple and faster to operate. Every hoist is tested at 100% overload before shipment.

Minimum distance bet. hooks, 11 inches. Mechanical advantage, 30-1. Lever length (overall) 22⅛ inches. Standard lift, 55 inches; minimum lift per stroke, ⅜ inch; maximum lift per stroke, ¾ inch. Net weight, 12 pounds.

B & L STAR BRAND WOOD TACKLE BLOCKS

FOR MANILA ROPE

Regular Mortise—Inside Iron Strapped—Loose Side Hooks—Japanned Fittings—Iron Sheaves

PU-2207 Single

PU-2208 Double

PU-2209 Triple

Dimens., Inches — Length Shell	For Diam. Rope	Price, Each — Single	Double	Triple
		Iron Bushed		
3	⅜	$1.50	$2.40	$3.30
4	½	1.70	2.60	3.50
5	⅝	2.10	3.20	4.30
6	¾	2.50	4.00	5.50
7	⅞	3.00	4.80	6.60
8	1	4.20	6.40	8.60
10	1⅛	7.00	11.00	15.00
12	1¼	12.00	19.00	26.00
		Roller Bushed		
3	⅜	2.10	3.40	4.70
4	½	2.30	3.70	5.10
5	⅝	2.80	4.50	6.20
6	¾	3.40	5.70	8.00
7	⅞	4.00	6.60	9.20
8	1	5.60	8.80	12.00
10	1⅛	9.00	14.00	19.00
12	1¼	14.00	22.00	30.00
		Graphite-Bronze Bushed Self-Lubrication		
3	⅜	3.10	5.20	7.30
4	½	3.20	5.50	7.80
5	⅝	3.70	6.20	8.70
6	¾	4.40	7.70	11.00
7	⅞	5.40	9.20	13.00
8	1	7.00	12.00	17.00
10	1⅛	11.00	18.00	25.00
12	1¼	16.00	26.00	36.00

B & L STAR METAL BLOCKS

FOR MANILA ROPE

Forged Steel Shells
Alloy Steel Sheave Pins—Drop Forged Loose Side Hooks

Iron Sheaves

No. 2325-A Single

No. 2326-A Double

No. 2327-A Triple

These blocks have been adopted as standard equipment by the largest Public Utility companies.

The Forged Steel Shells have edges nicely rounded to prevent chafing of the rope, and constructed to prevent rope from jamming between the shell and the sheave. The sides are recessed covering the ends of the center (sheave) pin.

All straps extend to the bottom of the shell, furnishing proper support. The Alloy Steel Sheave Pins greatly increase strength and durability.

Iron Bushed

Dimensions, Inches — Size Sheaves	Diam.	Rope	Lgth. Shell	ALL JAPANNED — Each — S'gle	D'ble	Triple	ALL GALVANIZED — Each — S'gle	D'ble	Triple
1¾x ½x⅜	⅜		3	$2.40	$3.60	$4.80	$2.60	$3.95	$5.30
2¼x ⅝x⅜	½		4	2.70	4.00	5.30	3.05	4.55	6.10
3 x ¾x⅜	⅝		5	3.50	5.30	7.10	4.10	6.20	8.30
3½x1 x½	¾		6	4.10	6.30	8.50	4.90	7.60	10.50
4¼x1 x½	⅞		7	5.80	8.40	11.00	7.00	10.20	13.50
4¾x1⅛x⅝	1		8	6.60	10.80	15.00	8.10	13.30	18.50
6¼x1½x¾	1¼		10	12.00	18.00	24.00	15.00	23.00	31.00
8 x1⅝x¾	1½		12	18.00	29.00	40.00	23.00	37.00	50.00

Roller Bushed

1¾x ½x⅜	⅜		3	$3.00	$4.70	$6.40	$3.20	$5.05	$6.90
2¼x ⅝x⅜	½		4	3.30	5.10	6.90	3.65	5.65	7.70
3 x ¾x⅜	⅝		5	4.10	6.40	8.70	4.70	7.30	9.90
3½x1 x½	¾		6	5.00	8.00	11.00	5.80	9.30	13.00
4¼x1 x½	⅞		7	7.00	10.50	14.00	8.20	12.30	16.50
4¾x1⅛x⅝	1		8	8.00	13.50	19.00	9.50	16.00	22.50
6¼x1½x¾	1¼		10	15.00	24.00	33.00	18.00	29.00	40.00
8 x1⅝x¾	1½		12	22.00	37.00	52.00	27.00	45.00	62.00

Graphite-Bronze Bushed

Self-Lubricating

1¾x ½x⅜	⅜		3	$4.00	$6.60	$9.20	$4.20	$6.95	$9.70
2¼x ⅝x⅜	½		4	4.30	7.00	9.70	4.65	7.55	10.50
3 x ¾x⅜	⅝		5	5.10	8.30	11.50	5.70	9.20	12.70
3½x1 x½	¾		6	6.00	10.00	14.00	6.80	11.30	16.00
4¼x1 x½	⅞		7	8.00	12.50	17.00	9.20	14.30	19.50
4¾x1⅛x⅝	1		8	9.00	15.50	22.00	10.50	18.00	25.50
6¼x1½x¾	1¼		10	16.00	26.00	36.00	19.00	31.00	43.00
8 x1⅝x¾	1½		12	28.00	39.00	55.00	28.00	47.00	65.00

B & L STAR BRAND SNATCH BLOCKS
WOOD SHELL CONDUCTOR STRINGING SNATCH BLOCKS
Drop Link Pattern With Drop Forged Flatted Swivel Hooks, Heads and Links. Roller Bearing Iron Sheaves with Polished Scores.

2340-SM
PU-38
Straight
Mortise

2340-WT
PU-38A
Wide Throat

These Wood Shell Snatch Blocks are used in the same manner as the Aluminum Conductor Stringing Snatch Blocks and made up with Japanned or Galvanized Iron Sheaves also.

Heat Treated Aluminum Sheaves

Equipped with specially designed roller bearings to insure freedom of action, as any failure could cause an abrasion of the conductors. These blocks are furnished in sizes below and made with special wide throat when so desired so as to accomodate any large splicing that may run over the sheaves.

Supplementary sleeve over pin greatly increases strength and rigidity of block.

When ordering blocks specify catalog number, size and type of sheaves with size cable to be used, copper or aluminum.

No. 2340-SM—Straight Mortise

Throat Ins.	Size Sheave Ins.	Maximum Size Cable Copper C.M.	Maximum Size Cable Aluminum C.M.	Blocks Complete Jap. Iron Sheave Each	Blocks Complete Gal. Iron Sheave Each
------	7x1⅛x⅝	*	*	**$12.00**	**$13.00**
------	7x1⅜x¾	188,700	300,000	**15.00**	**16.00**
------	10x1½x¾	250,000	397,500	**22.00**	**23.00**
	No. 2340-WT—Wide Throat				
2⅜	7x1⅜x¾	188,700	300,000	**16.00**	**17.00**
2⅝	10x1½x¾	250,000	397,500	**24.00**	**25.00**
2⅞	10x1⅝x¾	300,000	477,000	**26.00**	**27.00**
3⅛	10x1⅞x¾	314,500	500,000	**28.00**	**29.00**

*All 7x1⅛x⅝" sheaves have shallow scores and will take up to $\frac{15}{16}$" diameter cable.

MALLEABLE IRON SHELL CONDUCTOR STRINGING SNATCH BLOCKS

No. 30
2407

With Iron Sheaves

For Manila Rope

Shallow score sheaves with drop forged ⅝-inch diameter round swivel hooks.

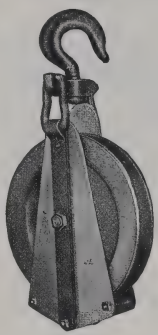
No. 20
2408

Size Block	Size Sheave Ins.	For Dia. Manila Rope Ins.
30	3x¾x⅜	⅝
20	3x 1x½	¾

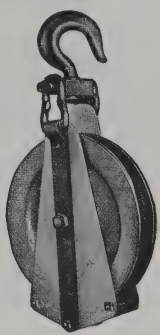
Blocks Complete

Size Block	Approx. Wt. Lbs. Ea.	Galvanized Iron Bushed Each	Galvanized Graphite Bronze Bushed Self-Lub. Each	Japanned Iron Bushed Each	Japanned Graphite Bronze Bushed Self-Lub. Each
30	3¾	**$6.30**	**$6.50**	**$7.50**	**$5.90**	**$6.10**	**$7.10**
20	4¼	**6.90**	**7.30**	**8.30**	**6.50**	**6.90**	**7.90**

B & L STAR BRAND SNATCH BLOCKS
ALUMINUM SHELL CONDUCTOR STRINGING SNATCH BLOCKS
Drop Link or Safety Locking Pattern for Aluminum Cable—Heat Treated Aluminum Sheaves—Ball Bearing with Polished Scores



No. 2341
PU-32-A



No. 2342
PU-32

This snatch block is made almost entirely of high-grade aluminum, combining lightness with strength, and is used in stringing aluminum conductors, as a harder metal might result in abrasion of the conductor.

The steel straps and drop forged hooks and B & L safety locking latch device which carry the concentrated load never come in contact with the conductor.

Supplementary steel sleeve over pin greatly increases strength and rigidity of block.

No. 2341 Drop Link Pattern furnished unless otherwise specified. When ordering blocks specify catalog number, size of sheave with size cable to be used.

Size Sheave Inches	Size Aluminum Cable Min. C.M.	Size Aluminum Cable Min. C.M.	Blocks Complete Approx. Wt. Lbs. Each	Blocks Complete Price Each
7x1⅜x¾	No. 2/0	300,000	14	**$32.00**
10x1½x¾	336,400	500,000	18	**46.00**
14x2 x1	500,000	795,000	37	**80.00**
16x2¼x1	795,000	1,272,000	40	**96.00**

PUBLIC UTILITY STEEL PLATE SNATCH BLOCKS
With Iron Sheaves

For Wire Rope

PU-35

All Galvanized with Drop Forged Flattened Stiff Swivel Hooks, Heads and Links.

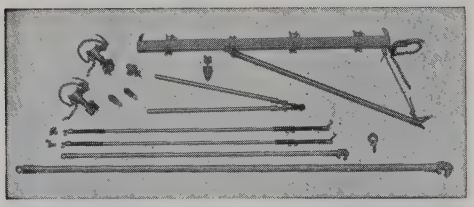
In the use of the pole derrick, pulling aerial cable, erecting a pole for replacement, using the old pole in place of the derrick, the operator is oftentimes obliged to use a snatch block. The snatch block illustrated here was made expressly for this purpose.

Size Block Ins.	Dia. Sheave Inches	For Dia. Wire Rope	Wt. Lbs. Each	With Graphite Bronze Bushed Self-Lub. Iron Sheave Each
6	6x1 x¾	⅜—½	15	**$18.00**
8	8x1¼x⅞	½—⅝	32½	**26.00**
10	10x1¼x1	⅝	52	**37.00**

CHANCE HOT LINE MAINTENANCE EQUIPMENT

3-PHASE TOOL SET

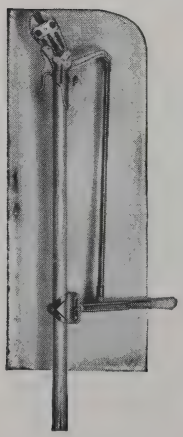
Maximum Span 300 Feet—Conductor Size Up to No. 1 Copper or Aluminum



Chance Standard Tool Set for 3-phase line furnished complete with equipment listed below.

Cat. No.	Description	Quantity	Price
M4800-10	Side Arm Tool Set complete with Hand Tools	..	$294.30
M4801-10	Side Arm Tool Set less Hand Tools	..	225.80
M4800-18	Wire Tong Arm Stirrup	1	6.55
M4800-1	Auxiliary Cross Arm	1	74.00
M4741-1	Wire Tong Saddle Pole Clamp (1½")	1	7.30
M4740-6	Wire Tong Saddle Pole Extension (4")	2	5.05
M4740-5	Wire Tong Saddle with 2½" Pole Clamp	2	31.75
M4657-1	Wire Tong (2½" x 12')	1	53.00
M4655-2	Wire Tong (1½" x 8')	1	27.55
M1729-1	Wire Tong Band (2½")	1	8.90
	Hand Tools		
M4455-70	Univ. Rotary Blade Tie Stick Head	2	6.25
M1871-6	Insulated Lever Wire Cutter (6')	1	25.00
M1855-19	Rotary Prong Tie Stick with Univ. Head (8')	2	19.40

INSULATED WIRE CUTTERS



This lever-type cutter is easy to use and gives positive insulation to the operator because both pole and lever provide insulation. Made in two sizes—one for cutting 2/0 weather-proof solid copper wire or 2/0 bare aluminum core steel reinforced wire and a heavy-duty cutter for 2/0 weather-proof stranded copper, 4/0 bare stranded copper and 4/0 bare aluminum core steel reinforced wire. Poles are laminated spruce, voltage tested. Lever attachment is a fibre rod.

Cat. No.	Pole Size	Price Each
M1871-4	1¼" x 4'	$22.75
M1871-6	1¼" x 6'	25.00
M1873-4	1½" x 4'	30.40
M1873-6	1½" x 6'	33.40

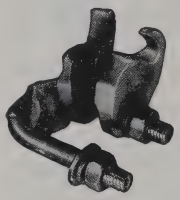
CHANCE HOT LINE MAINTENANCE EQUIPMENT

CHANCE SCREW GROUNDING ROD

Easily installed by hand because spiral point bites quickly into earth and T-handle gives auger-like operation. Reduces ohmic ground resistance. Rod diameter, ⅝-inch; screw length, 24 inches; overall length, 6 feet 2 inches.

Price, No. G3370 Ground Rod.....each **$12.90**

U-BOLT CONNECTORS



This U-bolt Connector may be applied to conductors without removing the nuts, thus eliminating the danger of losing nuts and washers and speeding up application. Chance U-bolt connectors are made for high current connections where high pressure contact is needed. May be applied hot.

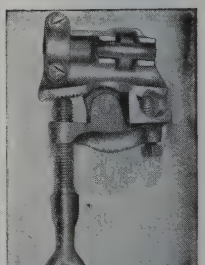
Cat. No.	Minimum	Maximum	Wt. Lbs. Per 100	Price Each
	Non-Ferrous U-Bolts			
S70-A	#5 ACSR	#1 ACSR	35	$0.98
S70-C	#4 Sol. Cu.	1/0 Str. Cu.	67	.98
S71-A	2/0 ACSR	4/0 ACSR	49	1.48
S71-C	3/0 Sol. Cu.	250 MCM Cu.	100	1.48
S72-A	266,800 CM ACSR	397,500 CM ACSR	65	2.14
S72-C	300 MCM. Cu.	500 MCM Cu.	134	2.14
	Galvanized Steel U-Bolts			
S70-AG	#4 ACSR	#1 ACSR	35	.65
S70-CG	#4 Sol. Cu.	1/0 Str. Cu.	67	.65
S71-AG	2/0 ACSR	4/0 ACSR	49	1.15
S71-CG	3/0 Sol. Cu.	250 MCM Cu.	100	1.15
S72-AG	266,800 ACSR	397,500 CM ACSR	65	1.64
S72-CG	300 MCM. Cu.	500 MCM Cu.	134	1.64

CHANCE GROUNDING ROD CLAMP

Will securely grip either flat or round surface. Jaw for flat surface is corrugated to bite through rust and lowers resistance. Gripper for round surface makes three-point contact.

Prongs make it easy to attach to ground wire against pole.

Maximum wire size: bus-bar, ½-inch; rod, ¾-inch; jumper, No. 1 Ex. Flex. Net weight, 1 pound.



Price, No. G3620-1 Grounding Rod Clamp .....each **$5.10**

CHANCE HOT LINE MAINTENANCE EQUIPMENT

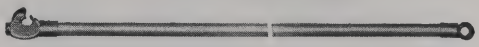
PERMA GRIP CLAMPS

The gripping jaws of the Perma Grip Tap Clamp make a 3 point contact with conductors. These clamps are made in a complete range of sizes, each being scientifically proportioned to give electrical conductivity without heating. They have high mechanical strength and have been proven in action for many years. USS threads permit quick, easy application and a tight, positive grip.

Cat. No.	Connection	Wire Max.	Wire Min.	Price Each
S1725-CC	Cu to Cu			$0.89
S1725-CA	Cu to Al	2/0 Str Copper	6 Sol Copper	.89
S1725-GP	Gen. P'pose			.89
S1725-AA	Al to Al	6 ACSR with Armor		.89
S1725-AC	Al to Cu	1/0 ACSR Bare	6 ACSR	.89
S1725-GP	General Purpose	6 Amerductor with PFT Armor		.89
S1730-CC	Cu to Cu	300M CM Str		1.18
S1730-CA	Cu to Al	Copper	4 Sol Copper	1.18
S1730-GP	Gen. P'pose			1.18
S1730-AA	Al to Al	2 ACSR with Armor		1.18
S1730-AC	Al to Cu	266,800 CM ACSR		1.18
S1730-GP	General Purpose	Bare 4 Amerductor with PFT Armor	6 ACSR	1.18
S1732-AA	Al to Al	336,400 CM ACSR No Armor or		1.63
S1732-AC	Al to Cu	1/0 ASCR with Armor	6 ACSR	1.63
S1735-CC	Cu to Cu	550M CM Str		2.53
S1735-CA	Cu to Al	Copper	1/0 Str Copper	2.53
S1735-GP	Gen. P'pose			2.53
S1735-AA	Al to Al	2/0 ACSR with		2.53
S1735-AC	Al to Cu	Armor	6 ACSR & Armor	2.53
S1735-GP	General Purpose	477,000 CM ACSR Bare 2 Amerductor with PFT Armor	1 ACSR Bare 8 Amerductor & PFT Armor	2.53
S1740-CC	Cu to Cu	800M CM Str Copper	4/0 Str Copper	4.05
S1740-AC	Al to Cu	4/0 ACSR with Armor	4 ACSR with Armor	4.05
S1740-AA	Al to Al	636 M CM ACSR No Armor	3/0 ACSR No Armor	4.05
S1745-CC	Cu to Cu	1,500M CM Str Cu	400M CM Str Copper	6.39
S1745-AC	Al to Cu	397,500 CM ACSR with Armor	1/0 ACSR with Armor	6.39
S1745-AA	Al to Al	1,431M CM ACSR No Armor	336,400 CM ACSR No Armor	6.39

CHANCE HOT LINE MAINTENANCE EQUIPMENT

CHANCE WIRE TONGS

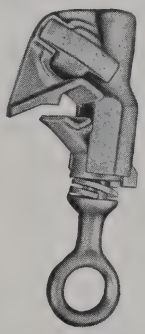


For use in moving conductors to safe position for working. Laminated spruce poles with bronze fittings. Easily and quickly applied, no locking on the conductor or rotating out of position. Strong, safe, light weight.

Cat. No.	Pole Dia. Inches	Pole Length Feet	Overall Length Ft.	Overall Length In.	Max. Wire Size	Price Each
M4654	1¼	8	8	4½	1⅛	$20.20
M4655	1½	8	8	4½	1⅛	22.50
M4655–2	1½	8	8	7¾	1⅛	27.50
M4655–3	1½	10	10	7¾	1⅛	29.70
M4656	2	8	8	8½	1⅛	36.60
M4656–1	2	10	10	8½	1⅛	39.50
M4656–3	2	12	12	8½	1⅛	42.40
M4657	2½	10	10	10¼	1½	49.20
M4657–1	2½	12	12	10¼	1½	53.00
M4657–2	2½	14	14	10¼	1½	56.90
M4658	3	10	10	10½	1½	58.15
M4658–1	3	12	12	10½	1½	63.85
M4658–2	3	14	14	10½	1½	69.95
M4657–5	2½	*	17	1¼	1½	71.00

* 8 ft. with 8 ft. extension.

ENCLOSED THREAD TAP CLAMPS



Designed with a protective hood over all working parts which includes a sealed waterproof thread chamber containing a corrosion resistant compound. Clamp may be easily removed from the line after long periods of exposure and use. Wide jaws insure good current distribution. Locking spring assures good contact. Jumper terminal above the conductor balances the eye screw to alleviate torsional stress.

Cat. No.	Conductor	Wire Max.	Wire Min.	Price Each
S1515-CC	Copper Copperweld	1 str. 4 A	8 sol. 8 sol.	$1.15
S1515-AA	ACSR, bare Amerductor (3-wire)	2 4	8 12	1.15
S1515-AC	ACSR, bare Amerductor (3-wire) Copper Copperweld	2 4	8 12	1.15
S1515-GP	Any combination of above conductors			1.15
S1530-CC	Copper Copperweld	250 MCM 4/0-7 str.	6 sol. 6 sol.	1.44
S1530-AA	ACSR, bare ACSR, armor Amerductor (3-wire) Amerductor with PFT Armor	4/0 2 2 4	6 sol. 6 sol. 12 12	1.44
S1530-AC	ACSR Amerductor Copper Copperweld	Same as S1530-AA		1.44
S1530-GP	Any Combination of Above Conductors			1.44

CHANCE HOT LINE MAINTENANCE EQUIPMENT

CHANCE GRIP-ALL CLAMP STICK

The Grip-All Clamp-Stick is designed for tap-clamp manipulation but may be used for many purposes.

To open jaws it is necessary to release the safety catch. This operation calls to the operator's attention that he is opening the jaws and prevents him from doing it accidentally. No danger of accidentally dropping the load when it is engaged to end of stick. Safety catch closes automatically when jaws are closed.

By simply sliding the hand grip along the handle it is possible to pull clamps, etc., into the end of stick making a rigid connection.

A special large ring attachment makes it possible to open and close large porcelain cutouts. Universal tool adapter makes it a Universal Pole usable with all Universal fittings.

Poles are of the best grade hardwood, thoroughly tested to withstand 75,000 volts per foot for five minutes. Castings are aluminum and bronze.

Cat. No.	Pole Diam. and Length	Overall Length	Price Each
M1864-4	1½"x4'	4'6¾"	$19.60
M1864-6	1½"x6'	6'6¾"	21.50
M1864-8	1½"x8'	8'6¾"	23.25
M1864-10	1½"x10'	10'6¾"	27.60
M1864-12	1½"x12'	12'6¾"	32.60
M1866	Large Ring Attach.		4.75
M1867	Univ. Tool Adapter		2.55

CHANCE WIRE TONG SADDLE AND TIGHTENER

Chance aluminum wire tong saddle fastens to the pole and holds wire tongs in position. A universal joint allows freedom of action for wire tongs without danger of binding. Tongs may be slid freely through the clamp until desired position is reached and clamped tight with wing-nut. Furnished complete with chain tightener. A 4-inch extension is possible by using saddle extension.

Complete with Chain Tightener

Cat. No.	Description	Approx. Wt. Lbs.	Price Each
M4740–3	Saddle with 1½" clamp..	8¼	$25.30
M4740–4	Saddle with 2" clamp..	8½	27.50
M4740–5	Saddle with 2½" clamp..	8¾	28.10
M4740–9	Saddle with 3" clamp..	9	28.75
M4740–10	Saddle less clamp	6	19.00
M4740–12	Saddle with Uni-Fit clamp	11¼	28.75

Pole Clamps Only

M4741–1	1½-inch pole clamp	2	6.30
M4741–2	2 -inch pole clamp	2½	8.50
M4741–3	2½-inch pole clamp	2¾	9.15
M4741–5	3 -inch pole clamp	3	9.80
M4741–6	Uni-fit clamp only	5	9.15

CHANCE HOT LINE MAINTENANCE EQUIPMENT

FIXED AND ROTARY PRONG AND BLADE TIE STICKS

Made in five types to meet all linemen's preferences. Fixed Prong sticks with either two or three prongs are used for manipulating tie wires with looped ends, pulling disconnects, installing cumalongs, etc. Small sharp notches on Fixed Blade stick make it desirable for undoing ties that do not have looped ends. Rotary Prong tie stick is considered by some linemen to be speedier and easier to operate than the Fixed Prong type. Swivel action permits full turn on tie wire without releasing contact. Rotary Blade tie stick meets the need for a rotary type stick which can handle tie wires with or without looped ends, with the speed and ease of the Rotary Prong type.

Chance Tie Sticks have a tie wire assistant and hanger attached to the 18-inch fiber sleeve on the head end. Sticks shown above have 12-inch fiber sleeves and universal fittings on the other end. Poles are 8 ft. long of 1¼-inch laminated spruce tested to withstand 75,000 volts per foot.

Cat. No.	Description	Price Each
	Universal End—18 and 12-Inch Sleeves	
M1855-6	Blade Tie Stick	$17.65
M1855-17	2-Prong Tie Stick	14.20
M1855-19	Rotary Prong Stick	17.65
M1855-20	3-Prong Tie Stick	14.20
M1855-26	Rotary Blade Tie Stick	17.65

WEAVER POLE LINE HARDWARE

WEAVER HOT LINE CLAMPS

Cast of high-strength bronze alloy. For rural line, branch line, transformer, circuit breaker, substation and outdoor line taps, either permanent or temporary.

Current carrying capacity is in proportion to that of the maximum jumper wire for which each clamp is designed. Both main line connection and tap wire connection are supported by shake-proof lock washers.

R.E.A. Approved.

Cat. No.	Line Wire Sizes	Max. Tap Size	Price Each
	Copper to Copper Clamps		
1WS	#6 Sol. to 2/0 Str.	2/0 Str.	**$0.77**
WSB	#6 Sol. to 400,000 CM	2/0 Str.	**1.02**
	Aluminum to Aluminum or Aluminum to Copper Clamps		
1WS-C	#8 to #6 over armor	1/0A1.-2/0Cu.	**.77**
WSB-C	#8 to 1/0 over armor	1/0A1.-2/0Cu.	**1.02**

SALISBURY'S LINEMEN'S TOOL BAGS

No. 30 TOOL BAG

A full size bag of sturdy construction, amply reinforced and designed throughout for heavy duty service. Made of No. 2, 31-ounce duck with a single side seam together with top and bottom fastenings strongly sewed. Heavy leather bottom extends 3 inches up the sides. A utility pocket on inside. Bag is collapsible. Diameter 12 in. Height 16 in. Weight 2¼ lbs.

Price, No. **30** Tool Bag ..... each **$14.50**

No. 40 TOOL BAG

Made of No. 6, 18-ounce duck, with single side seam together with top and bottom fastenings strongly sewed. Heavy leather bottom extends 2½ inches up the sides. Top ring is non-metallic and will hold its shape permanently. The rope handle is spliced to the bag through a heavy leather reinforcement. Folds into small space. Weight, 1¾ lbs.

Price, No. **40** Tool Bag..each **$9.60**

LINE HOSE BAG

Provides a safe and convenient method to raise Salisbury's Line Hose up the pole. It will hold several pieces in an available position while protective equipment is being placed. Capacity 8 pieces of 3 ft., or 4½ ft. lengths of 1-inch diameter hose. Can also be used to raise protective blankets that are rolled and held closed with tape fastenings before being placed in bag.

Line Hose Bags are 48 inches long and 7 inches in diameter. Made of No. 6, 18-ounce duck. Bottom is made of hardened and waterproofed leather, reinforced with a 3-inch harness leather cuff trimmed with rawhide. Substantially made. Weight 2¼ lbs.

Price, Line Hose Bag.....each **$13.40**

LINEMEN'S RUBBER PROTECTIVE DEVICES

STEAM CURED LINEMEN'S GLOVES

Steam cured gloves test far in excess of specifications; are of proper weight and thickness to combine the qualities of flexibility with lasting dependable service.

Made in sizes: 9, 9½, 10, 10½, 11, and 12.

Class B gloves are standard, intended for use with protectors. Class A gloves are thicker and intended for use without protectors.

14-Inch Gloves

Straight Finger Type — Mfrs. No.	Lgth. In.	Class	Price Per Doz.	Voltage	Curved Finger Type — Mfrs. No.	Lgth. In.	Class	Price Per Doz.
90	14	B	.....	10,000	**100**	14	B	.....
90	14	A	.....	10,000	**100**	14	A	.....
90	14	....	.....	15,000	**100**	14	....	.....
90	14	....	.....	20,000	**100**	14	....	.....
				18-Inch Gloves				
110	18	B	.....	10,000	**120**	18	B	.....
110	18	A	.....	10,000	**120**	18	A	.....
110	18	....	.....	15,000	**120**	18	....	.....
110	18	....	.....	20,000	**120**	18	....	.....

LINEMEN'S GLOVE PROTECTORS

Made of specially tanned grade A buffed horsehide from selected weights. These protector gloves remain soft and pliable under all conditions and will not become slippery when wet. Resist wire puncture to the greatest degree as no belly shank leather is used.

Made in 3 styles, each of which is available with either closed or open backs, and also with long thumb crotches for straight finger rubber gloves or short thumb crotches for curved finger rubber gloves.

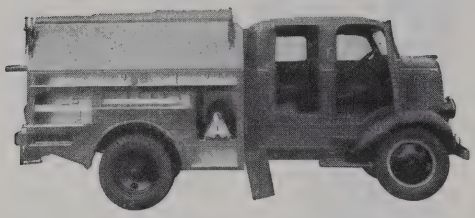
Band Top Style

For Use With Straight Finger Rubber Gloves — Mfrs. No.	Price Per Doz.	Style	For Use With Curved Finger Rubber Gloves — Mfrs. No.	Price Per Doz.
14–C	.....	Closed Back	**114–C**	.....
14	.....	Open Back	**114**	.....
16–C	.....	Closed Back	**116–C**	.....
16	.....	Open Back	**116**	.....
		Semi Gauntlet (2¾-Inch) Style		
22–C	.....	Closed Back	**122–C**	.....
22	.....	Open Back	**122**	.....
24–C	.....	Closed Back	**124–C**	.....
24	.....	Open Back	**124**	.....
		Full Gauntlet (4-Inch) Style		
18–C	.....	Closed Back	**118–C**	.....
18	.....	Open Back	**118**	.....
20–C	.....	Closed Back	**120–C**	.....
20	.....	Open Back	**120**	.....

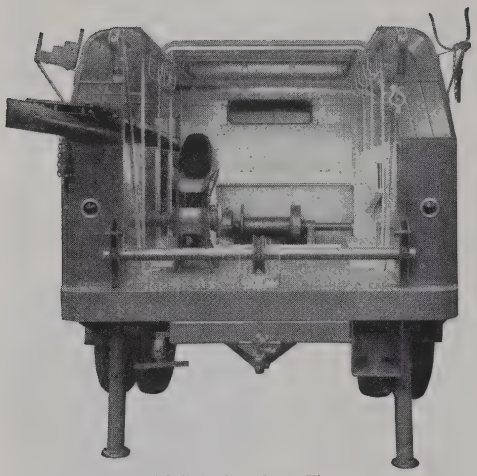
Prices on request.

UTILITY ALL-STEEL TOOL AND SERVICE BODIES

No. 47 LINE BODY



Model 47 Body



Model 47 Body — Rear View

All Steel Line Construction Body — Standard length 10 feet, width 92 inches (optional shorter or longer lengths). Changes can be made to meet customers needs.

Boxes and compartments, including through boxes underneath floor for carrying tools and supplies.

Saw carriers, axe holders, material hooks, bit holders, etc., are standard.

Piano type hinges full length on all doors. Panels 18 gauge cold rolled steel.

Ball bearing hasp type handles on all doors. Doors designed to guard against rain entering and ruining contents.

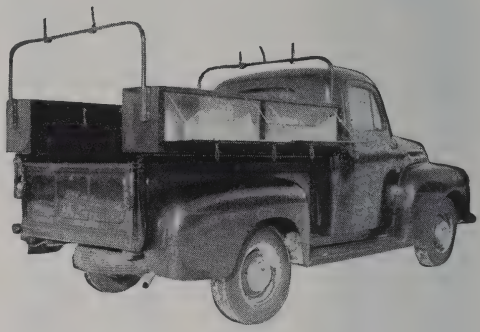
All steel anti-skid floor.

Telescoping 3 section steel roof (tarpaulin optional at lower cost).

Ladder and pike-pole carrier — pole derricks, power reel — single or double drum winch, towing hook, hot line box, truck supports, etc., available.

Entire body is electrically welded and riveted to make up a rugged well constructed unit.

JUNIOR BODY SERIES (JB'S) FOR PICK-UP TRUCKS



A light weight, low cost, service body designed for those areas where something more than a pick-up body is needed and yet where returns do not justify the more elaborate service bodies. Consists of two large all-steel boxes which can be quickly mounted on the flare of any pick-up body.

Does not interfere with the full use of the width of the pick-up body.

Ladder carrier made of steel tubes with rear section easily removable so high objects may be carried in body. Adjustable ladder clamps.

Boxes are made to length of pick-up truck — ordinarily 72 to 90 inches. Height and width dependent on model — 13 to 20 inches high and 10 to 13 inches wide — 4 sizes. Same weather tight doors, full length piano hinge, ball-bearing type hasps and removable trays as in larger bodies. 18 gauge cold rolled steel boxes and 16 gauge ends and 14 gauge doors. Material hooks standard. Easy to mount as all brackets, bolts, and instructions are included. Prime painted with silver aluminum finish on all inside surfaces.

JB-2 and JB-4 extend 3 inches into pick-up and rack is furnished to hold shovels, digging bars, etc.

Boxes are lined with $\frac{1}{2}$x$\frac{7}{16}$-inch sponge rubber to prevent dust or rain from entering. Ideal for use by Public Utilities, REA's, Contractors, Cities, Electrical dealers, etc.

Weight: Approximately 250 lbs. per set.

Model	Width Inches	Height Inches	Model	Width Inches	Height Inches
JB-1	10	13	**JB-3**	10	20
JB-2	13	16	**JB-4**	13	20

UTILITY ALL STEEL TOOL AND SERVICE BODIES

MODELS 7269, 8469 AND 105

Model 7269

For ½ ton trucks. Length dependent on truck frame length — normally 72 inches but made to fit your truck. 72 to 74 inches wide depending on make of truck. Boxes 40 inches high and 12 inches wide.

Right side compartment has ample partitions for tools and supplies — also six larger compartments as shown. Left side compartment divided into similar arrangement. Ideal for electrical power and light companies, gas companies, electric contractors, REA's, Independent Telephone Companies, municipalities, etc.

Substantial, well built ladder carrier together with quick acting Fire Department type hold-down clamps, pike poles, shovels, cross arms, etc., can also be carried in the separate adjustable sections and clamped down. Rear ladder carrier section can be quickly removed and mounted in front sockets when high objects (refrigerators, etc.) are to be carried.

Steel floor of 12-gauge steel, well reinforced. Steel tailgate of rugged construction. All door openings are lined with ½x⅞-inch sponge rubber inserted into recessed channels to prevent dust and water from entering.

Fenders built in body — save price of fenders and pick-up body on this model. Easy to install. Weight approximately 685 lbs.

Model 8469

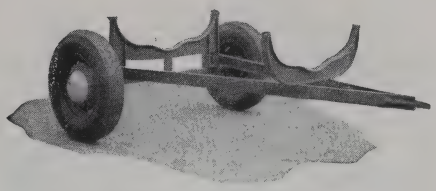
Heavier construction and longer, similar to 7269 except made to fit ¾-ton trucks. All of these bodies are electric and spot welded construction. However, doors, tailgate and sections which may be damaged through accident are bolted or riveted for easy repairs. Give model and make of truck when ordering. Weight approx. 785 lbs.

Model 105

Similar to above bodies except designed for 1-ton trucks and approximately 105 inches long. Heavier construction, more and larger compartments and trays. Built to your own specifications if desired. Designed for in-between smaller service bodies and heavier truck units. Sponge rubber lined door openings prevent dust and water from entering. Give make and model of truck when ordering.

All doors equipped with piano type full length hinges and patented ball-bearing type hasps. Same ladder carrier. Easy to mount.

POLE TRAILER MODELS 20BA AND 35BA



All steel bunk type. Low height and wide tread (58") prevents whipping or snaking. Ideal for emergency jobs where one or only a few poles are to be hauled or where regular loads of 2000 lbs. fits into the program (3500 lbs. on 35BA). Timken roller bearings, automotive type steel wheels and hubs (interchangeable with your truck if desired) permits the use of your truck spare if necessary. Can be furnished with Ball-Type Hitch if preferred. 20BA with 600x16 first grade tires. 35BA with 7.50x20 tires. Brake available if desired.

P-3-T

All steel General Purpose and Pole Trailer. Capacity 3300 lbs. Available with or without electric power brakes. Extension tongue, 13 feet. Size of box 56x44 inches. Spring leaves 11. Square axle 1¾ inches. Length of trailer 108 inches. Weight, 678 lbs. Tires: single 600x16.

CABLE TRAILER MODEL PWD

Provides quick and effective means of loading and transporting heavy and unwieldy reels of cable. Loading is quickly accomplished by tripping trailer back until saddles engage with spindle inserted through center of reel. Tongue is then pulled down and coupled to truck.

Low center of gravity of the load insures safe transportation at truck speeds. Guides on saddle are quickly adjustable to different width reels.

Specifications

	PWD	PWD-2
Reel capacity	34" to 38"	44" to 48"
Diameter	84"	84"
Reel spindle	2½"	2½"
Track	74½"	84¾"
Tires	10.00x20	10.00x20
Weight less brakes, lbs.	2270	2420
Weight with brakes, lbs.	2700	2850

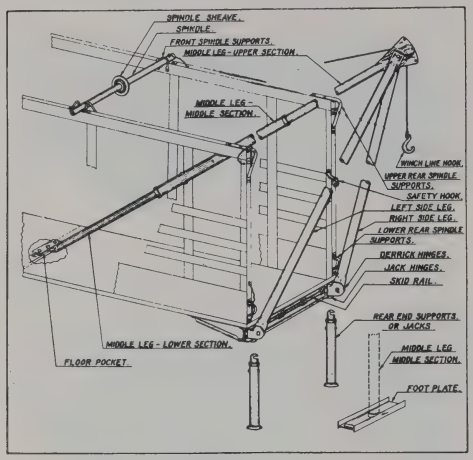
COMBINATION TRAILERS PCP

These trailers were developed for both pole and cable reel work but where there is not sufficient use to justify both trailers. Bolsters with sliding cam locking stanchions are quickly mounted as required. Cable reel saddles can be securely attached quickly, affording the same effective means of loading and unloading cable as with the PWD models.

Specifications—Same as PWD plus locking stanchions.

UTILITY ALL-STEEL TOOL AND SERVICE BODIES

POLE LINE CONSTRUCTION DERRICKS



Manufactured of alloy steel tubes to the well known standards and furnished in various sizes and types. May be had with either regular heads or with cable guide rollers on side of derrick head (to guard against excessive wear).

Designed for quick erection into position for operation and just as easily dismantled for transportation. Middle type is recommended for general work. Corner type is designed for use in alleys and restricted places where the pole can be better handled at one side of the center line of the truck.

The Model LM (Light Middle) is the most popular for all-around use.

Middle Type Derrick consists of:

1 Upper section of Middle Leg
1 Center section of Middle Leg
1 Lower section of Middle Leg
2 Side Legs
1 Head Bolt
2 Connecting Bolts
1 Anchor Pin
1 Foot Plate

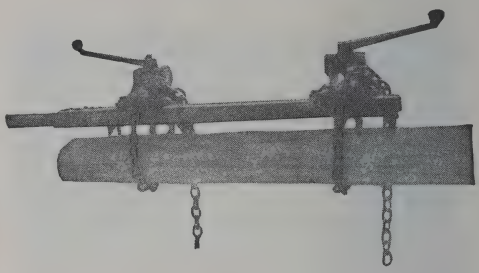
Derricks can be furnished for (or with) hinge-type or regular floor pockets. Foot plates standard equipment.

			Approx. Height Mounted on Truck	Length of Pole Handled, Feet	Derrick Wt. Lbs.
Extra Light Middle	XLM	(M35)	17½ ft.	30 to 35	315
Light Middle	LM	(M40)	20 ft.	40 to 45	410
Heavy Middle	HM	(M45)	22 ft.	50 to 55	565
Single Boom		(T45)	21'10"	45 to 55	505

Note: "M" models indicate cable roller guides on head.

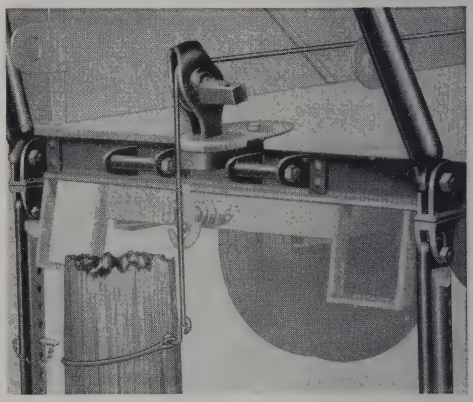
Derrick and body accessories, such as winch line hooks, truck supports, spindles, universal sheave blocks, winches, power takeoffs, CR Power Reels, towing hooks, etc. are available.

"H" AND "L" DRAWBARS



Standard with Public Utilities. Consists of channel with forged steel eye and two locking handles which screw down and tighten chain around king pole. Steel prongs bite into pole and hold drawbar in place. Large eye in end of drawbar connects with pintle hook (towing hook) on truck. Towing or pintle hooks for mounting on truck chassis can be furnished for any truck. "L" (light) weighs 31 lbs. "H" (heavy) weighs 55 lbs.

UNIVERSAL SHEAVE BLOCK



The Universal Sheave Block permits cable pulls in different directions without the use of snatch blocks. It will do everything a snatch block will do— and a great deal more. For example, on a road widening job, 200—40 ft. poles were lifted out and set back two feet, without loosening the dirt round them before lifting. The Universal Sheave Block often pays for itself many times over on one job. It not only saves time and money in preliminary adjustments but also prevents cable stranding and breakage — prevents loosening of stanchions and saves wear and tear on the truck. Sheave Block consists of a specially designed sheave with two shanks that lock into a socket fastened to the rear end of truck body. When an upward pull is desired, the bottom shank is locked in the socket. For a side pull, the side shank is used.

UTILITY ALL-STEEL TOOL AND SERVICE BODIES

POWER OPERATED REEL HOIST

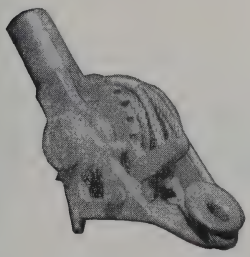
Can be installed on any truck and drives from any power winch.

Takes down a mile of wire at a time without cutting. 3 miles of winding (wind up 1 mile and pull 2 in one operation). No cutting or splicing — no side strain. Permits pulling at any angle through use of rolling guides. Can be taken down from top of cross arm without lifting or lowering to ground. Eliminates the labor of lifting and lowering wire to top of pole. Converting 2-wire to 4-wire line a mile in one pull.

Where operating on private roads or cross country, truck may be left on main road and wire converted from mile away.

Eliminates the ordinary 5 to 20 drops per mile requiring labor of cutting and splicing as well as cutting off phone and electric service as well as road blocking.

PORTABLE POLE BINDER



All steel construction, consists of steel winch which by means of a pawl and ratchet action tightens the steel cable as it is wound. 18 feet of $\frac{5}{16}$-inch preformed steel cable comes with the binder. Steel prongs in base of casting dig into the pole as the cable is tightened. Binder with cable weighs only 18½ pounds.

UTILITY AERIAL PLATFORM

Safe aerial platform which hooks on to any truck equipped with winch and derrick brackets. As easy to hook up or disconnect as a pole derrick and can be used interchangeably. One man can connect or disconnect it in a few minutes.

Platform is always level no matter how high men are working. Steel tubes support platform and raising and lowering is controlled by steel cable, as shown. Guard rail protects men from falling.

Replacing and cleaning lamps, transformers, crossarms, tree trimming, overhead cable work, etc. are but a few uses. Because of the size of the working platform (36″ x 54″) two or more men can work on it. Transformers may be hoisted (with men) to position.

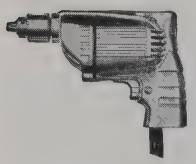
Steel tubes 21 feet long, permitting platform level of 23-24 feet, and reach of 29-30 feet from ground. Three or 4 feet additional height can be had by adding floor above the standard — also guard rail as shown.

As an elevator — same steel winch which operates derrick is used to raise and lower platform. Steel cables permit stopping and holding platform at any point desired for working purposes. Men do not necessarily have to get off platform while moving from one location to another.

Approximate weight, 500 lbs.

THOR PORTABLE POWER TOOLS

¼-INCH SILVER LINE STANDARD DUTY DRILLS



Available in seven speeds for general use in maintenance and production service. Pistol grip handle. Plunger switch.

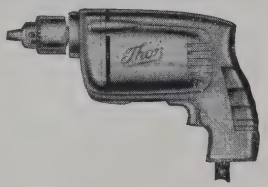
Standard Duty Service

Cat. No.	Free Speed R.P.M.	Wt. Lbs.	Length Overall, In.	Price Each
ED2	1800*	3	7 7/16	**$42.00**
Right Angle Model				
ED111	2250	3 7/8	10	**57.00**

*Optional speeds of 2500 (ED1), 3700 (ED0), 5000 (ED5) available at no extra cost. Low Speed Models — 550 (ED4), 800 (ED7), 1100 (ED3) R.P.M. **$48.00.**

¼-inch Chuck Standard; ¼-inch Collet Optional. (Length of right angle head: with collet, 2 5/16 inches, with chuck 3 11/16 inches).

¼-INCH HEAVY DUTY ELECTRIC DRILLS

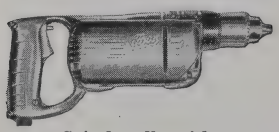


Available in seven different speeds. Designed and built for extra heavy production service. Easy handling. Pistol grip handle with trigger switch; or side handle with trigger switch, (add "S" to size number).

Cat. No.	Free Speed R.P.M.	Wt. Lbs.	Length Overall, In.	Price Each
U14F	2500	3 7/8	8 3/4	**$45.00**
U12F	3750	3 3/4	8 1/16	**45.00**
U13F	5000	3 3/4	8 1/16	**45.00**
U16FD	750	3 7/8	8 3/4	**53.50**
U17FD	1500	3 7/8	8 3/4	**53.50**
U18FD	1000	3 7/8	8 3/4	**53.50**
U22FD	500	3 7/8	8 3/4	**53.50**
With "Thorite" Plastic Housing				
U14K	2500	3 1/4	8 1/16	**45.00**
U12K	3750	3 1/4	8 1/16	**45.00**
U13K	5000	3 1/4	8 1/16	**45.00**

Add "S" to size number for side handle.

¼-INCH SILVER LINE HEAVY DUTY DRILL



This powerful rugged drill of ¼-inch capacity is designed to meet requirements on production work in wood and metal. Grip handle with momentary trigger switch. Chuck, cable with ground wire and plug.

Cat. No.	Free Speed R.P.M.	Wt. Lbs.	Length Overall, In.	Price Each
EJ0	2000	6½	12 5/16	**$55.00**

THOR PORTABLE POWER TOOLS

5/16- AND 3/8-INCH SILVER LINE DRILLS

Ball bearings throughout. Steel thread and bearing inserts. Grip handle with momentary trigger switch standard; momentary side switch handle and dead handle optional.

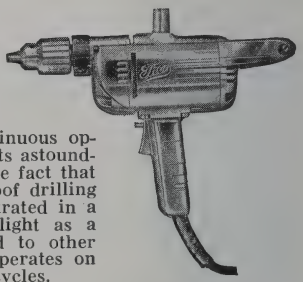
Cat. No.	Capacity Inch	Free Speed R.P.M.	Wt. Lbs. Each	Length Overall	Price Each
EJ1	5/16	1500	6 5/8	12 7/16	**$57.50**
EJ2	3/8	1000	7¾	12⅞	**64.50**

Additional 5/16- and 3/8-Inch Models

Cat. No.	Capacity Inch	Free Speed R.P.M.	Handle	Price Each
*	5/16	1000	Grip	**$60.50**
EJ6	5/16	1500	Side	**57.50**
EJ3	3/8	750	Grip	**64.50**
EJ7	3/8	1000	Side	**64.50**
EJ8	3/8	750	Side	**64.50**

*Specify "Cat. No. EJ2 with 5/16-inch chuck".

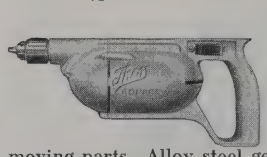
½-INCH SILVER LINE DRILL



This is the most powerful ½-inch drill in the world. For drilling through toughest metals — for stamina under hard, continuous operation. One of its astounding features is the fact that so much stall-proof drilling power is concentrated in a tool that is as light as a feather compared to other ½-inch drills. Operates on A.C. or D.C. 60 cycles.

Cat. No.	Capacity Inch	Free Speed R.P.M.	Wt. Lbs. Each	Length Overall	Price Each
EJ9	½	500	7	11	**$64.50**

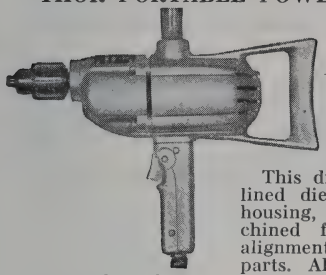
¼-INCH COPPER LINE DRILL



This Thor ¼-inch drill has streamlined die-cast aluminum housings, precision machined for permanent alignment of moving parts. Alloy steel gears, permanently lubricated oil-lite bearings, triple-insulated Thor Power Tool motor. Attractive Copper finish. Closed grip handle with recessed, thumb-control switch. Length 11¾ inches. Weight, 4 bs.

Copper Line ¼-inch Drill, with Keyless Chuck (2000 r.p.m.) **$19.95**
Copper Line ¼-inch Drill, with Geared Chuck **22.95**

THOR PORTABLE POWER TOOLS



½-INCH COPPER LINE DRILL

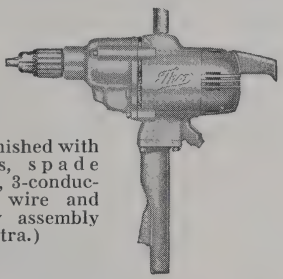
This drill has streamlined die-cast aluminum housing, precision machined for permanent alignment of moving parts. Alloy steel gears, permanently lubricated oil-lite bearings triple-insulated Thor Power Tool motor. Copper finish.

Geared chuck and key, 6-inch removable auxiliary side handle, spade handle, permanent side handle with trigger switch and locking pin for continuous or intermittent operation. Length 14½ inches. Weight, 9½ lbs.

Copper Line ½-inch Drill, with Geared Chuck (420 r.p.m.).....**$42.00**

LARGE CAPACITY ELECTRIC DRILLS

½ Inch, ⅝ Inch, ¾ Inch



Standard equipment includes Jacobs Chuck in sizes indicated. Morse Taper Socket optional in place of chuck. All sizes furnished with momentary switches, spade handle, dead handle, 3-conductor cable, ground wire and plug. (Feed screw assembly complete, **$10.00** extra.)

Standard Duty

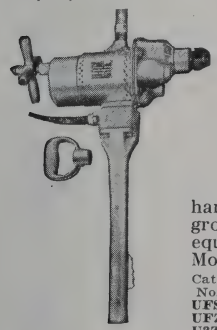
Cat. No.	Capacity Inches	Free Speed R.P.M.	Wt. Lbs.	Length Overall, In.	Price Each
EL5	½	525*	15	15¼	**$84.00**
EL6	⅝	425	15¼	14¼	**85.00**
EL7	¾	350	15⅞	14⅝	**88.00**

Extra Heavy Duty

UFD	⅝	430	24¾	17	**105.00**
UFH	¾	350	25¾	18¾	**115.00**

*Available 750 R.P.M., **$5.00** extra. (Specify Cat. No. EL4.)

⅞-, 1-, AND 1¼-INCH DRILLS AND REAMERS

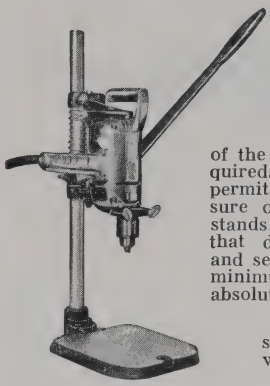


Constructed to withstand the hardest kind of continuous production and maintenance service. UFS and UFZ — Spade handle, standard, feed screw, optional. U3Z and U3S—Feed screw, standard, spade handle optional. Side handle, momentary switch, dead handle, 3-conductor cable, ground wire and plug. All sizes equipped with No. 3 Internal Morse Taper Socket.

Cat. No.	Cap. In.	Speed R.P.M.	Wt. Lbs.	Lgth. In.	Price Each
UFS	⅞	350	25¼	16⅞	**$120.00**
UFZ	1	300	29	20	**132.00**
U3Z	1¼	350	49¼	19⅞	**200.00**
U3S	1¼	78	93	27¼	**250.00**

THOR PORTABLE POWER TOOLS

ELECTRIC DRILL STANDS

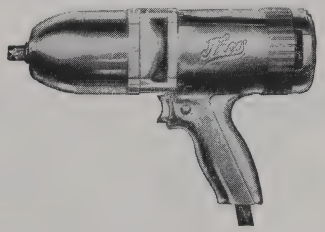


The Thor Electric Drill Stands quickly extend the application of a Portable Electric Drill to stationary service jobs where the extreme sensitivity of the drill press is not required. Six-to-one leverage permits tremendous pressure on the work. These stands are so constructed that drills are accurately and securely arranged with minimum effort and held absolutely square and rigid.

When ordering stands, specify for what size tool.

Stand No.	Can be used with following Drills Inches	Vertical Movement In.	Adjusted Vertically In.	Bench Space Inches	Wt. Lb.	Price Each
8	¼ to ½	3	11½	13 x 8 5/16	29	**$28.50**
		3	12	13 x 8 5/16	30	**28.50**
		3	12½	13 x 8 5/16	32	**28.50**
26	⅝ to 1	5	14	15 x 9	50	**44.00**
	For Use with Copper Line Drills					
C4DS	¾	3	10	10⅜x10	14¾	**12.95**
C8DS	½	5	14	12¼x 8 1/16	32	**19.95**

⅜- AND ½-INCH IMPACT WRENCHES



New reversible ALL-PURPOSE power wrenches —use for drilling in wood, steel, stone, tapping, etc., as well as driving and removing screws and nuts. No kick, no twist. Motor runs continuously —even when spindle is stopped—cannot stall or burn out.

Cat. No.	Nut Running Capacity	Free Speed R.P.M.	Weight Lbs.	Spindle Drive Square	Price Each
EW6	⅜"	2150	6⅞	½"	**$120.00**
EW10	⅝"	2000	12¼	⅝"	**180.00**

EW6K Kit—with Collet Chuck, No. 2 Morse Taper Socket, one Morse Taper reducer sleeve, 6 hexagon sockets.....**$139.25**

EW6KC Kit—with ⅜-inch Impact Wrench, Carrying Case, 6 hexagon sockets.....**$135.45**

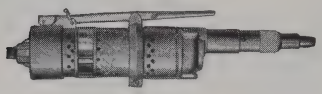
EW10K Kit—with Collet Chuck, No. 3 Morse Taper Socket, one Morse Taper reducer sleeve, one drift pin, two socket wrench adapters, 4 hexagon sockets.....**$208.40**

EW10KC Kit—with ⅝-inch Impact Wrench, Carrying Case, 4 hexagon sockets.....**$198.20**

THOR PORTABLE POWER TOOLS

No. 8 SCREW DRIVERS

For No. 3/16-Inch Metal Screw or No. 8 Wood Screws



The exceptionally light weight of these Midget Screw Drivers makes them unusually easy to handle. Equipped with Double Slip Clutch attachment which can be adjusted to drive screws to any predetermined tension. Furnished with lever switch, as illustrated, or bonnet switch.

Cat. No.	Angle	Switch Type	Speed R.P.M.	Price Each
ULTW	Straight	Lever	1000	**$77.00**
ULPW	Straight	Lever	550	**77.00**
ULNW	Straight	Lever	1500	**77.00**
ULT	Straight	Bonnet	1000	**71.50**
ULN	Straight	Bonnet	1500	**71.50**
ULP	Straight	Bonnet	550	**71.50**

25° Double Switch Clutch Attachment can be furnished with any of the above sizes, **$16.50** extra.

ULP-481	Rt. Angle	Bonnet	440	**108.00**
ULT-481	Rt. Angle	Bonnet	800	**108.00**
ULN-481	Rt. Angle	Bonnet	1200	**108.00**
ULP-492	Rt. Angle	Bonnet	440	**100.00**
ULT-492	Rt. Angle	Bonnet	800	**100.00**
ULN-492	Rt. Angle	Bonnet	1200	**100.00**

Equipment with No. 8 Screwdrivers: one finder and three ¼ inch hexagon shank screwdriver bits or one standard length socket wrench shank. ¼ inch, $\frac{3}{32}$, or ⅜ inches square drive and one socket. Reversing switch in cord, **$7.50** extra. NOTE: "492" series equipped as nut setter only.

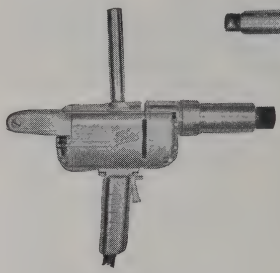
No. 12 SCREW DRIVERS

This screw driver, radically different in design and construction, drives any size screw from No. 4 to No. 12. Furnished with three screw driver bits and one finder for size and type screw, as indicated. Shorter and lighter, with all weight concentrated at the operator's hand, this screw driver is in fact a one-hand tool. Patented ventilating system reduces heat generated. Accurately machined heat-treated helical gears reduce noise and vibration.

Cat. No.	Attachment Type	Angle	Speed R.P.M.	Price Each
ED17	Positive	Straight ..	800	**$61.00**
ED16	Positive	Straight ..	1100	**61.00**
ED18	Positive	Straight ..	500	**61.00**
ED12	Double Slip	Straight ..	800	**75.00**
ED11	Double Slip	Straight ..	1100	**75.00**
ED13	Double Slip	Straight ..	500	**75.00**
ED47	Double Slip	25 Degree	800	**97.00**
ED46	Double Slip	25 Degree	1100	**97.00**
ED48	Double Slip	25 Degree	500	**97.00**
ED41	Double Slip	Rt. Angle	880	**120.00**
ED42	Double Slip	Rt. Angle	660	**120.00**
ED51	Kickout	Rt. Angle	880	**110.00**
ED52	Kickout	Rt. Angle	660	**110.00**

THOR PORTABLE POWER TOOLS

No. 18 SCREW DRIVERS AND NUT SETTERS



Available with grip handle and momentary switch as illustrated; or with side handle, spade handle and dead handle (similar to Thor ½-inch Silver Line Drill). Can be equipped with positive or kickout clutch.

Cat. No.	Type Clutch	Type Handle	Speed R.P.M.	Price Each
EJ18	Positive	Side	500	**$ 85.00**
EJ23	Kickout	Grip	500	**108.00**
EJ12	Positive	Grip	750	**90.00**
EJ22	Kickout	Grip	750	**110.00**
EJ27	Kickout	Side	750	**110.00**

Equipment: One standard $\frac{7}{16}$-inch hex. socket wrench shank (½-inch square drive) and one socket; or one $\frac{7}{16}$-inch hex. shank screw driver bit and finder assembly. Reversing switch in cord, **$10.00** extra.

"PIX-UP" FINDER AND ADJUSTO-TRAY

Speeds Screw Driving

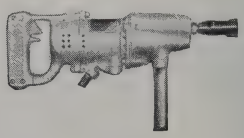
Mechanically picks up screw and holds it for driving. Speeds screw driving 3 to 9 times. For any size screw.

Available on all No. 8 and No. 12 Thor Screw drivers. Full particulars on request.

ELECTRIC TAPPERS

With Mechanical Reverse

For ⅜-Inch and ¼-Inch Tapping

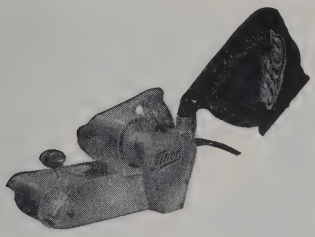


The Thor UKS and UBR Tappers are powerful machines with mechanical reverse for ⅜-inch and ¼-inch tapping. A slight pull on the tool disengages the forward speed and throws it into reverse motion. $\frac{7}{16}$-inch Jacobs Tapping Chuck furnished with UKS; ½-inch Chuck with UBR.

Size	Capacity Inches	Free Speed R.P.M.	Length Inches	Wt. Lbs. Each	Price Each
UKS	⅜	460	14¾	8¼	**$ 85.00**
UBR	¼	500	16¼	11½	**107.00**

THOR PORTABLE POWER TOOLS

SILVER LINE ELECTRIC BELT SANDERS

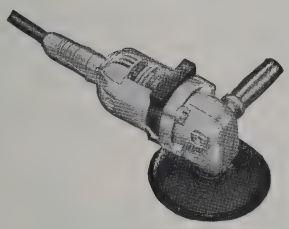


New "Silver-Line" 4½-inch Belt Sander features direct gear drive—delivers 20% extra power to the belt. Heat radiating system helps belt cut cleaner, last longer. Available with or without gear-driven dust collecting system.

Cat. No.	Overall Dimensions	Belt Size	Belt Speed	Price Each
		Without Dust Collector		
T-45	6¾x14½x9¼	4½x26	1400 FPM	$150.00
		With Dust Collector		
T-45V	6¾x14½x9¼	4½x26	1400 FPM	178.00

Weight: (without collector) 20 lbs. 12 oz. (with collector) 22 lbs. 6 oz.

SILVER LINE 7- AND 9-INCH ELECTRIC SANDERS



For sanding, grinding, cleaning, preparing automobile bodies and fenders for paint jobs, smoothing wood surfaces, etc. Perfectly balanced. Armature and spindle run in ball bearings giving wheel maximum torque. Handle can be used on either side of machine. Equipped with flexible rubber pad and box of 3 assorted abrasive discs.

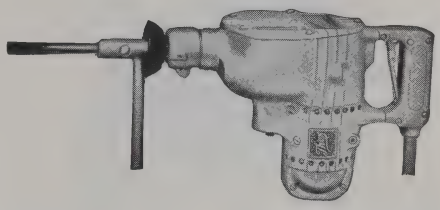
Cat. No.	Free Speed	Weight Lbs.	Length, In. Overall	Price Each
	7-Inch Standard Duty Silver Line Sander			
EL82	4500	8½	13½	$73.00
	7-Inch Heavy Duty Silver Line Sander			
EN82	4500	14½	17	82.00
	9-Inch Heavy Duty Silver Sander			
EN87	4500	14¼	17	85.00

6-INCH RT. ANGLE GRINDER

Heavy duty 6-inch cup wheel capacity, 4000 RPM, 14¼ lbs., 17 inches overall length, equipped with wheel guard and 6-inch general purpose flaring type cup wheel. Code No. EN72, Price **$95.00.**

THOR PORTABLE POWER TOOLS

THOR ELECTRIC HAMMER



In stone, wood or metal there are numerous jobs the Thor U-100 will do better and faster; star drilling, channeling, chipping, cleaning, cutting, etc. This tool has a more powerful blow than any hammer of comparable size and weight. Well balanced, it is very easy to handle. Over-capacity motor, housed at right angles to the barrel, delivers power to "sling-shot" drive through heavy duty helical cut gears.

Furnished with turning handle, ejector pin, extra rubber slingshot connector, 3-conductor cable, switch and plug, carrying case. Capacity in concrete up to 1⅛-inch Star Drill.

Cat. No.	Blows Per Minute	Length Overall	Wt. Lbs.	Price Each
U100	1600	13½	14	$130.00

ACCESSORIES FOR U-100 ELECTRIC HAMMER

STAR DRILLS — Taper Shank

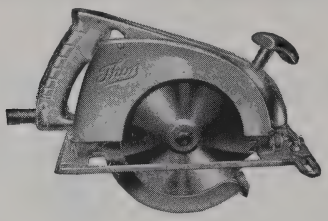
Size of Point	5-Inch Drilling Depth Cat. No.	5-Inch Drilling Depth Price Each	9-Inch Drilling Depth Cat. No.	9-Inch Drilling Depth Price Each	12-Inch Drilling Depth Cat. No.	12-Inch Drilling Depth Price Each
¼"	70336	$1.10	.....	.....	.....	.....
5/16"	70337	1.10	70445	$1.50	.....	.....
⅜"	70338	1.10	70345	1.50	70446	$1.65
7/16"	70339	1.10	78645	1.50	70353	1.65
½"	70340	1.10	70346	1.50	70354	1.65
9/16"	70447	1.10	70347	1.50	.....	.....
⅝"	70341	1.10	70348	1.50	70355	1.65
11/16"	.....	.....	70349	1.70	.....	.....
¾"	70342	1.30	70350	1.70	70356	1.85
⅞"	70343	1.40	70351	1.90	70357	1.95
1"	70344	1.55	70352	2.00	70358	2.15
1⅛"	74842	2.35	74843	2.65	74844	2.85

18- and 24-inch Drilling Depths also available. Quantity discounts on all sizes upon application.

YOUR ELECTRICAL REQUIREMENTS ALWAYS GET OUR PROMPT, CAREFUL ATTENTION

THOR PORTABLE POWER TOOLS

SILVER LINE PORTABLE ELECTRIC SAWS



Exclusive Thor "long-shaft" transverse motor mounting, "shock-absorber" gears, for extra blade power. Double lock safety switch — positive protection against accidental starting. Finger tip control for depth, bevel and rip adjustment. Built in sawdust blower. Over-size ball bearings; super-strong die cast aluminum housings; steel bearing inserts; ball-bearing telescoping guard, with rubber bumper; extra wide, extra long steel base. All saws furnished with one combination blade, 10 feet of 3-conductor rubber covered cord with 2-prong connectors, steel carrying case, wrench and lubricant.

Blade Size	Dimensions, Inches: Max. Depth of Cut	Dimensions, Inches: 45° Depth of Cut	Free Speed	Wt. Lbs.	Price Each
6¼	2 3/32	1⅜	3600	13½	$ 65.00*
7¼	2½	1⅞	4200	17¼	125.00
8¼	2 15/16	2 5/32	4200	18	145.00
10	3⅝	2⅝	2750	35	190.00
12	4 7/16	3¼	2750	36½	225.00

*Without carrying case; with carrying case, **$69.95**, specify T6C.

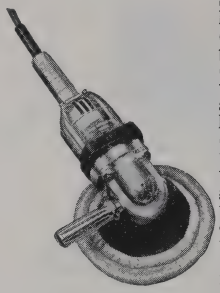
SAW BLADES

Diam. Inches	Cat. No.	Price Each
Combination Type		
6¼	73863	$ 3.75
7¼	73875	4.25
8¼	73881	4.95
10	73894	5.75
12	73899	7.45
Cut-Off Type		
6¼	73865	3.75
7¼	73876	4.25
8¼	73883	4.95
10	73895	5.75
12	73900	8.25
Mitre Type		
6¼	73867	6.50
7¼	73877	7.00
8	73885	7.70
10	73896	10.50
Metal Cutting Type		
5⅞	73874	8.25
8	73888	8.50
Fine Tooth Type		
6¼	73869	3.90
7	73879	5.25
8	73887	5.25

Diam. Inches	Cat. No.	Price Each
Carbide Tipped		
6	22315	$28.00
7	22313	29.75
8	22314	34.50
Diamond Edge		
6x.040	22486	10.30
7x.050	22489	15.60
8x.050	22492	16.90
10x.064	22496	24.85
12x.075	22499	40.45
Rip Saw		
10	73898	5.75
12	73901	8.25
Flooring Type		
6¼	73873	3.75
7¼	73878	4.75
8	73886	5.57
10	73897	7.00
Ice Scoring		
6¼	75344	5.50
7¼	75345	5.85
8¼	75346	7.45
Friction		
6¼	73871	8.00
8	73884	9.00

THOR PORTABLE POWER TOOLS

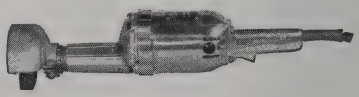
7-INCH ELECTRIC POLISHERS



Heavy duty machines built to handle any polishing or buffing job quickly and efficiently. Light weight and perfect balance assures handling ease. Equipped with powerful Thor motor. Armature and spindle run on ball bearings and gears are of nickel-chromium, heat-treated alloy steel. Equipped with 3-conductor cable with ground wire and two-prong plug. Horizontal end handle with dustproof rocker-type switch. Furnished standard with 7-in. flexible rubbed pad, 7-in. felt cushion pad, 8-in. lambswool polishing pad.

Cat. No.	Free Speed R.P.M.	Wt. Lbs.	Length In. Overall	Price Each
Standard Duty Silver Line Polisher				
EL92	1400	9	14½	$75.00
Heavy Duty Silver Line Polisher				
EN92	1400	15¼	17¼	83.00

4, 5 AND 6-INCH PORTABLE GRINDERS



The Thor "Shock Absorber Spindle" prevents vibration from reaching the motor. Shaped grips on the spindle housing and straight end handle prevent tool turning in operators' hand. Furnished with adjustable wheel guard, straight horizontal handle with trigger type switch, 3-conductor cable, ground wire and plug. Wheel included.

Size Wheel Inches	Free Speed R.P.M.	Wt. Lbs.	Length, Inches Overall	Price Each
4	6000	10	18¾	$ 77.50
5	4500	10¼	18¾	90.00
6	4000	15¼	23¾	112.00

THOR AIR TOOL KIT

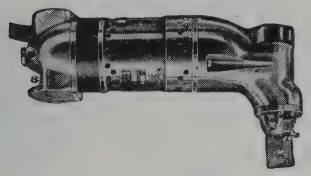
The Thor Multi-Matic Kit brings to the automotive service industry the features of smaller size, greater power, dependable performance and lower maintenance cost on scores of jobs.

Size	Description	Price
G-9A	Complete Tool Kit	$142.00
G-1A	½-in. Pistol Grip Drill	53.00
G-2A	¼-in. Button Throttle Drill	51.00
G-3A	½-in. Right Angle Drill	70.00
G-4A	Right Angle Hole Saw	72.00
G-5A	4-in. Heavy Duty Grinder	60.00
G-6A	4-in. Heavy Duty Wire Brush	59.00
G-7A	7-in. Disc Sander-Polisher	70.00
G-8A	7-in. Heavy Duty Polisher	70.00

Each of the above tools can be assembled from parts included in the complete kit, shown at top. Any individual tool can also be purchased separately as a complete unit.

THOR PORTABLE POWER TOOLS

U1N ELECTRIC NIBBLER



Ideal for sheet metal workers, heating and ventilating contractors, and all who must cut sheet metal quickly and economically. The tool is small, only 9 inches long and is easy to handle. Capacity in steel, 20 gauge and in aluminum 16 gauge. Especially efficient in cutting tubes, irregular shapes, corrugated stock, as it cuts its own clearance, and will not curl or distort the stock.

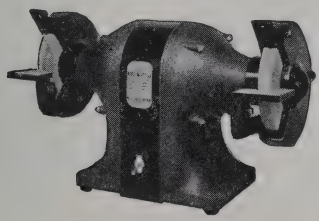
The U1N can be used to make internal cuts of any shape without breaking-in from the edge by simply drilling or punching a hole in the stock and inserting the head of the Nibbler. Curves and circles with as small a radius as 1 inch can be cut. It operates on a punch and die principle in which a shaving of metal is removed with each reciprocation of the punch.

Equipment includes an adjustable yoke type front head; recessed toggle switch; 3-conductor cable with ground wire and plug; one extra cutting punch; one adjusting wrench; one wrench for clamp screw.

Size	Capacity in Inches — Sheet Metal	Aluminum	Length Overall	Wt. Lbs. Each	Price Each
U1N	.035	.065	9	3¾	$80.00

BENCH GRINDERS

6, 7, 8 and 10 Inch Wheel Capacities

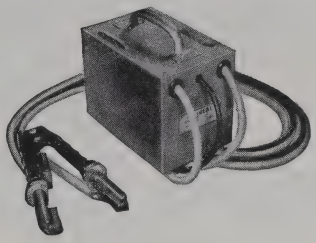


Suited for all-around service in grinding, buffing, and wire wheel work. Available in popular sizes. All ball bearings are over-size and dust tight requiring only annual greasing attention. Adjustable tool rest. Extra heavy wheel guards. Prices below for A.C., single phase, 60 or 50 cycles, 115 or 220 volts, as specified. Additional models, prices on application.

Cat. No.	Size, Inches	Dimens., Inches — Wheel Diam.	Wheel Width	Bore	Load Speed R.P.M.	Price Each
B634	6—Std. Duty	6	½	½	3450	$42.00
B6S	6—Hvy. Duty	6	¾	½	3450	63.00
B7S	7—Hvy. Duty	8	1	⅝	3450	88.00
B8S	8—Hvy. Duty	8	1	⅝	3450	96.00
B10	10—Hvy. Duty	10	1	¾	1750	165.00

IDEAL THERMO-GRIP SOLDERING TOOLS

1000 WATT STANDARD MODEL



1000-watt standard model Thermo-Grip is adaptable to practically all soldering jobs—closely grouped parts, difficult positions, cramped spaces, inflammable surroundings. Does all types of soldering quicker, safer and easier. Heats instantly and concentrates heat only on the part to be soldered. Eliminates fire hazard and danger of melting nearby joints or burning other parts. Does not oxidize the tin in solder, weaken the solder, or discolor the finished job. Reaches soldering temperature in less than one minute. Handy thumb-switch permits close heat control for better soldering. All parts fully insulated. Current is reduced to harmless low voltage. Operates on resistance heating principle. Can be used for long periods of time without overheating.

ATTACHMENTS

Plier Attachment (Illustrated above with Power Unit) — for soldering applications — where work may be held in jaws and heated; i.e. removing or applying solder lugs up to 450 amps., sweating and unsweating copper tubing and fittings up to 1¼ inches diameter, soldering wire joints, etc. Carbons are replaceable. Rating: 1000 volt amps.

Pencil Attachment — for spot soldering — where ground clamp may be attached to a metal part of work to complete secondary circuit; i.e. spot soldering, soldering sheet metal, wire joints, commutator risers, etc. Includes "C" type ground clamp. Rating: 600 volt amps.

Fork Attachment—for soldering in restricted spaces — where straight tools cannot be used; i.e. soldering lugs, terminals or connections in switch boxes, switchboards, inside machines, etc. The electrode holders can be turned and locked in any position. Rating: 600 volt amps.

Cat. No.	Description	Wt. Oz.	Price Each
12-106	Complete Unit	----	$86.90
12-108	Complete, Less Attachments	----	74.80
12-067	Plier Attachment only	13	23.50
12-068	Fork Attachment only	6	26.40
12-069	Pencil Attachment only	13	18.50

IDEAL COMMUTATOR RESURFACERS

HAND TYPE RESURFACERS

Hand Type Resurfacers are equipped with various style handles to meet conditions found in any type of commutator or slip ring. They are used by simply holding the Resurfacer against the commutator and moving it from side to side as the motor turns over, under its own power.

PENCIL TYPE

Pencil Type (No Handle)

Used for fans or signal motors, for auto generators, locomotive headlight motors and other fractional H.P. motors. Standard size 6x⅝x⅜ inches.

FAN—SMALL MOTOR TYPE

Fan, Auto or Small Motor Type

This Ideal Resurfacer has a medium-grade stone on one side and a finish-grade stone on the other end of the handle. For use on small fractional H.P. motors. Standard size, ¾x½x⅝ inches.

STRAIGHT HANDLE TYPES

This type is used primarily on inaccessible types of commutators on small or enclosed motors.

Dimens., Inches					
L.	W.	T.	L.	W.	T.
1	x 1	x 2	2	x 1	x 2
1	x 1	x 1	3	x 1	x 2

TRAMWAY, VERTICAL AND RAILWAY HANDLES

For Medium Size Motors and Small Generators

Dimens. Inches		
L.	W.	T.
2	x 1½	x 2
2	x 2	x 2
3	x 2	x 2
3	x 3	x 2
4	x 3	x 2

Specify grade.

Tramway Handle **Vertical Adj. Handle** **Railway Handle**

Tramway Handle — Stout handle with a good grip, permanently mouned at a 45-degree angle.

Vertical Adjustable Handle—The knob handle is fastened permanently. The extra rod handle makes this type universal to meet practically all conditions.

Railway Handle — A stout handle with a good grip, permanently mounted in a vertical position.

POCKET TYPE

2-in-1 Tool—Handy, Pocket Type.

Made up in any combination of five grades, two grades being cemented together. Standard sizes, 6 x 2 x 1; 8 x 2 x 1 inches.

Specifications and prices on request.

IDEAL MOTOR MAINTENANCE PRODUCTS

IDEAL COMMUTATOR SLOTTING SAWS AND MILLING CUTTERS

High speed steel and special high speed steel. Available in all types and sizes.

Prices on application.

IDEAL FLEXIBLE ABRASIVES

A fine grain, non-dusting abrasive, held together by a flexible band. Serves as both Commutator cleaner and burnisher. Removes high resistance film, dirt and grease — imparts a super-finishing surface. It is non-conductive and non-loading.

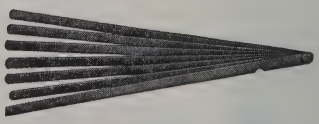
Cat. No.	Size Inches	Price Each	Cat. No.	Size Inches	Price Each
82-001	⅜x ½x5	**$0.90**	**82-004**	1x2x5	**$5.50**
82-002	⅜x ¾x5	**1.40**	**82-005**	1x4x5	**11.00**
82-003	⅝x1 x5	**2.80**	----------	----- ----	--------

IDEAL BRUSH SEATER

For seating carbon-graphite or metal composition brushes. Brush is accurately seated under operating conditions, without shutting down the machine. Standard size, 4¾ x 1⅛ x ⅝ face.

Price, No. **23-008** Ideal Brush Seater....each **$1.10**

ARMATURE AIR GAP GAUGES



Very useful for plant maintenance work in checking the correct air gap between stator and rotor.

Gauges are made of thin leaves of specially tempered steel. Each leaf is plainly marked for thickness. Each set has a substantial steel case into which the gauges may be folded when not in use. Blades are ½ inch wide. Weight 8-inch size, 4 oz.; 16-inch size, 8 oz.

Cat. No.	Description	Price Each
44-001	8-inch length .002 incl. .015	**$4.30**
44-002	8-inch length .002 incl. .048	**4.30**
44-003	8-inch length .002 incl. .060	**4.30**
44-004	16-inch length .006 incl. .025	**7.60**
44-005	16-inch length .005 incl. .040	**7.60**
44-006	16-inch length .005 incl. .060	**7.60**

IDEAL COMMUTATOR CEMENT

A non-conductor, regardless of age. Highly adhesive. When once dry it stays in place and will not shrink.

Cat. No.			Each
54-007	½	lb. can----------	**$2.20**
54-008	1	lb. can----------	**3.30**

IDEAL WIRE STRIPPING EQUIPMENT

BENCH TYPE WIRE STRIPPER

For stripping solid or stranded wire up to $\frac{1}{4}$ inch diameter. Has 8 hole dial wire guide to center different sized wire between cutting blades. Furnished with set of plain blades for stripping parallel wires, heater cords, inner conductors, P.O.S.J. cord, etc. Special grooved blades for stripping rubber, asbestos, and other similar covered wire may be secured at slight extra charge. Mounts on a bench leaving hands free for stripping. Easy to operate — just insert wire between oscillating blades to the adjustable stop, then a quick jerk cleanly and quickly removes the insulation. Eliminates guess work and prevents nicked wires and cut strands.

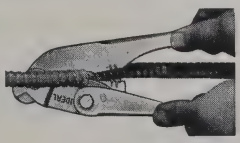
Price, No. **45-069**—including one set (2) plain blades .....each **$46.20**

HANDI-GRIP WIRE SKINNER AND WIRE STRAIGHTENER

A handy tool designed to cut and strip insulation, scrape wire and straighten kinks and sharp bends. Hardened tool steel blades have the cutting edges hollowed in the center to prevent wire from slipping out of the tool. Blades are removable for resharpening. The unit is light, compact, and sturdy — does not tire hands.

Price, No. **45-021** Wire Stripper.....each **$2.50**

IDEAL BX ARMOR CUTTER



Cuts BX Armor in one operation. Jaws are formed to take BX cable of any make, 2- or 3-wire, No. 10 or No. 14. No adjustments are necessary. Cuts quickly and cleanly without injury to wire insulation.

Handy pocket size. Hardened steel cutting blade is removable for sharpening. Blade is also replaceable. Weight, only 12 ounces.

Price, No. **45-079** BX Armor Cutter.....each **$7.20**

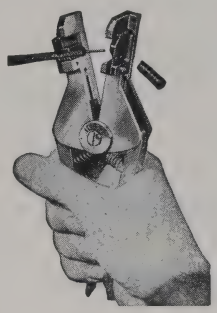
IDEAL CABLE RIPPER AND WIRE GAUGE

This ripper cuts cleanly, easily and quickly. Just the tool for use on nonmetallic sheathed duplex cable or lead-covered cable. The case-hardened cutting point gives long service.

Can also be used for ripping outer sheathing of other cords, lead cables, etc., where outside diameter is $\frac{5}{8}$ in. or smaller.

Price, No. **45-018**.....each **$0.86**

IDEAL STRIPMASTER WIRE STRIPPER



The only hand type Wire Stripper with automatic single-squeeze operation. Exclusive automatic feature holds jaws open after stripping to permit removal of wire and prevent crushing. A single squeeze of the handles strips wire clean and bare up to a full $\frac{7}{8}$ inch. There is no nicking or fraying of wire. Blades are specially hardened for long service and can be changed with the removal of only two screws.

Strips any of the following wire: Building, fixture or telephone wire — lamp, portable equipment and appliance cords. Automotive wiring, radio, instrument wire and cable — switchboard and aviation wire, also FM and TV down lead wire.

Cat. No.	Wire Gauge	Price Each	Extra Blade No.	Price Per Pair
*45-090	8 to 12.....	$10.50	L-4419	$2.20
45-091	10 to 18.....	10.50	L-4420	2.20
*45-092	10 to 22.....	10.50	L-4422	2.20
45-093	14 to 22.....	10.50	L-4422	2.20

*Strip only. No cutting edge.

Replacement blades available.

IDEAL AUTOMATIC E-Z WIRE STRIPPER

For stripping standard lamp and fixture wire, automotive wire and all other stranded wire. Provided with a lever to stop the return of the arms until the wire is removed after stripping. This prevents crushing of stranded wire by returning stripper arm. Also suitable for stripping solid wires.

E-Z Standard Model—Same as "E-Z" Automatic model, except that it does not have a lever to stop return of arms after stripping. Especially designed for stripping solid wire, it may also be used on stranded wire.

Cat. No. Automatic Model	Cat. No. Standard Model	Wire Gauge No.	No. of Holes	Extra Blade Nos.
45-029	45-024	Nos. 20 to 30	6	L-2756
45-030	45-025	Nos. 12 to 18	3	L-2587
45-031	45-026	Nos. 10 to 16	3	L-2588
45-032	45-027	Nos. 8 to 14	2	L-2757
45-046	45-045	Nos. 12 to 22	4	L-2586
*45-078	.....	Nos. 10 to 22	6	L-3705

*No cutting edge.

Automatic Models .....each **$10.50**
Standard Models .....each **8.80**
All Replacement Blades.....each **2.20**

MEPHISTO TOOLS

PUMP WRENCH NO. 91

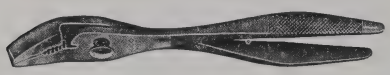
Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.
10	8	$27.60

HEAVY DUTY PLIERS NO. 95

Slip joint, straight nose.

Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.
6	7½	$19.20
8	9½	23.40
10	14	28.20

HEAVY DUTY PLIERS NO. 96



Slip joint, bent nose.

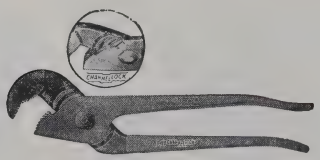
Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.
10	15	$33.00

CHAMPION DeARMENT TOOLS

CHANNELLOCK SELF-GRIPPING PLIERS

The Channellock design provides a quick, positive grip when pressure is applied to only one handle. The greater the pressure, the tighter the grip. The exclusive tongue and groove joint makes a plier far superior to the conventional type.

No. 410



A heavy-duty self-gripping plier which will hold work of any shape with a positive pipe wrench grip. Polished steel finish. Length, 9½ inches; capacity, ⅞ to 1⅛ inches. Packed 6 to a carton; weight per dozen, 12½ pounds.

Price, No. 410.....each $3.20

No. 417

A heavy-duty plier with a gripping power many times greater than the ordinary slip-joint plier. Polished steel finish. Length, 7 inches; capacity, ⅞ inch. Packed 6 to a carton; weight per dozen, 6¾ pounds.

Price, No. 417.....each $2.30

KLEIN TOOLS

NO. 201 SIDE CUTTING PLIER

Handles temper blued, polished head and jaws, scored jaws.

Cat. No.	Lgth. In.	Wt.Lbs. Per Doz.	Price Each	Cat. No.	Lgth. In.	Wt.Lbs. Per Doz.	Price Each
201-5	5	3	$6.50	201-8	8	11¾	$9.00
201-6	6	5¼	7.00	201-9	9	14	9.50
201-7	7	7¼	7.50	.....	..	.....	.....

NO. 201-N.E. SIDE CUTTING PLIER

Identical with series No. 201 except that the nose is rounded to permit easier working in confined space and all edges rounded to prevent nicking of wire. Polished head and temper-blued handles.

Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each	Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each
201-6-NE	6	5¼	$7.00	201-8-NE	8	11¼	$9.00
201-7-NE	7	7¼	7.50	201-9-NE	9	13½	9.50

NO. 217 CHAIN NOSE PLIER, SIDE CUTTING

Similar to No. 317-6 but with side cutting knives. The knives are carefully matched and cut true over their entire length. Made in one size only. Weight per dozen, 3½ pounds.

Price, No. 217-6, size 6-inch.....each $6.00

NO. 220 "AUTO" OBLIQUE-CUTTING PLIER

Made especially for automotive mechanics and others who demand a high quality plier of this pattern. Knives are close cutting and carefully matched for their full length. The "Handform" handles provide full leverage and comfort for continual use. Weight per doz., 7 pounds.

Price, No. 220-7, size 7-inch.....each $6.50

NO. 317 CHAIN NOSE PLIER

Without Cutters

This plier is intended for general use where a shorter nose is desirable. One size only.

Weight per dozen, 3½ pounds.

Price, No. 317-6, size 6-inch.....each $5.00

All Pliers, Polished Heads and Temper-Blued Handles. Standard Package 6 in a box.

KLEIN TOOLS

NO. 202 OBLIQUE CUTTING PLIER

For close cutting in confined places, will cut silk insulation cleanly. Polished head and blued handle. Lap joint.

Cat. No.	Lgth. In.	Wt. Lbs. Per Doz.	Price Each	Cat. No.	Lgth. In.	Wt. Lbs. Per Doz.	Price Each
202-5	5	3¾	$5.70	202-6	6	4	$5.80

NO. 245 OBLIQUE CUTTING PLIER

This plier measures exactly 5 inches in length. It is slightly smaller in all dimensions than the 202-5 and will be found particularly convenient as it can easily be carried in vest pocket.

Weight per dozen, 3 pounds.

Price, No. **245-5**, size 5-inch.....each **$5.70**

NO. 301 LONG NOSE PLIER

Without Cutters

Perfected to meet a long-felt want of electrician and general mechanic. For switchboard, telegraph and telephone work, armature winding, etc.

Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each	Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each
301-5	5	3¼	$4.90	301-7	7	4¼	$5.50
301-6	6	3¾	5.00	--------	--	------	--------

NO. 203 LONG NOSE PLIER

Side Cutting

Same as No. 301 series with addition of cutting knives.

Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each	Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each
203-5	5	3¼	$5.50	203-7	7	4¼	$6.30
203-6	6	3¾	6.00	--------	--	------	--------

NO. 303-6 LONG NEEDLE NOSE PLIER

Has all the features of No. 301 series, except that the points of the nose are of the needle point pattern. Polished head and temper-blued handles. Standard package 6. Weight per dozen, 3¾ pounds.

Price, No. **303-6**, size 6-inch.....each **$5.00**

All Pliers, Polished Heads and Temper-Blued Handles. Standard Package 6 in a box.

KLEIN TOOLS

NO. 206 LONG FLAT NOSE PLIER

Side Cutting

Useful plier for working in deep and narrow places. Lap joint, scored jaws.

Polished head and handles temper blued.

Weight per dozen, 3½ pounds.

Price, No. **206-6**, size 6-inch.....each **$6.00**

NO. 311-5½ LONG FLAT-NOSE SPRING-ADJUSTING PLIER

This plier is hollow ground on the outside of the jaws to reach between and grasp springs easily. Largely used by telephone men because it makes rapid and accurate adjustments possible.

Weight per dozen, 3¼ pounds.

Price, No. **311-5½**, size 5½-inch.....each **$5.50**

All Pliers, Polished Heads and Temper-Blued Handles. Standard Package 6 in a box.

NO. 132-15 COMBINATION WIRE AND SLEEVE CLAMP

Has five round holes and will accommodate all sizes of iron wire Nos. 6 to 14 B. W. G. and all sizes of copper wire Nos. 4 to 12 B. & S. gage. One large oval hole for guy strand .437x.624. The reverse side has five sets of chambers adapted for twisting double tube copper sleeve joints Nos. 6 to 17 B. & S. gage and iron sleeve joints Nos. 8 to 19 B. W. G. Polished head and black handles. Standard package 6. Weight per dozen 18 pounds.

Price, No. **132-15**, size 11¼-inch.....each **$10.50**

NO. 1901-M CLIMBERS

Standard Pattern

Leg iron or shank is made of spring steel, the gaff or spur is forged from tool steel. Stock sizes 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from the instep to end of shank. Other sizes to order.

Cat. No.	Description	Wt. Lbs. Per Pair	Price per Pair
1901-M	Riveted Strap Loops..	3⅝	$10.50
1901-M-ADJ	Adjustable Climbers ..	3¾	14.00

KLEIN TOOLS
"POLE-MASTER" LINEMEN'S CLIMBERS

No. 1945

Extra wide stirrup gives more arch support. Leg irons are flexible and tapered in width and thickness so that ankles and calves get better support without chafing. "Pole-Master" Climbers have an offset shank that brings gaff in proper line with the leg bone to provide greater security and comfort.

Made in matched pairs — one "right," the other "left" — with drop forged triangular strap rings at ankle. Stock sizes in fixed length pattern: 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from instep to end of shank. Adjustable pattern climbers are adjustable to 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from instep to top of slide. Special sizes in either fixed or adjustable climbers made to order. Every climber individually tested.

Gaffs 3½ inches long measured on the outside. All climbers have aluminum finish.

When Ankle Straps No. 5301-16 or 5301-26 are desired attached at the factory, specify on order.

No extra charge.

Cat. No.	Description	Price Each
1945	Drop Forged Triangular Strap Rings at Ankle	.....
1945-ADJ	Drop Forged Triangular Strap Rings at Ankle	.....
C1945-ADJ	Complete with Straps and Pads	.....

Adjustable Climbers are available completely assembled with Straps and Pads. The following items are furnished with this assembly: No. 5301-9 Calf Straps, No. 5301-26 Angle Straps and No. 8207 Climber Pads.

NO. 1903 LIGHTWEIGHT CLIMBERS

These climbers are similar to No. 1901-M, but are made as light as possible in the leg iron consistent with good safety practice. Stock sizes 15, 15½, 16, 16½, 17 17½, and 18 inches, measured from instep to end of shank. Other sizes to order.

Cat. No.	Description	Wt. Lbs. per Pair	Price per Pair
1903	Riveted Strap Loops	2⅞	**$11.20**
1903-ADJ	Adjustable Climbers	3⅜	**14.70**

KLEIN TOOLS
CLIMBER STRAPS

These straps are furnished without pads.

Cat. No.	Description	Wt. Per Doz. Pairs	Price per Pair
5301- 4	One Pair, 1¼ x 22-in.....	8	**$4.00**
5301- 9	One Pair, 1 x 22-in.....	6	**3.70**
5301-14	One Pair, 1¼ x 26-in.....	9	**4.50**
5301-10	One Pair, 1 x 26-in.....	8	**4.00**

PADS FOR CLIMBERS

These pads are made of select leather, arranged with loops through which to slip climber straps.

Cat. No.	Description	Size Inches	Wt. Lbs. Doz. Sets	Price per Pair
8200	Sheep-lined	4 x 4	4	**$2.50**
8201	Felt-lined	4 x 4	4	**2.50**
8202	Plain Leather	4 x 4	4	**1.80**

LEATHER TOOL BELTS—NO. 5228

No. 5228
Made in sizes 36, 38, 40, 42, 44 and 46 inches. Other sizes to order.

The cushion—4½ inches wide at center of back and tapered to 3½ inches wide at the front — is made of one piece of soft, pliable, yet tough, russet latigo leather, doubled to form comfortable rolled edges and returned at each end.

Fitted with knife snap, tape thong and glove pouch ring. Width 4½ inches.

Cat. No.	Description	Width In.	Wt.Lbs. Per Doz.	Price Each
5228	Standard D Rings	4½	45	**$27.50**

NO. 5204-TSO TEXAS BELT

This type of belt is made to give geater safety with utmost comfort to the wearer. The main belt is cut from a single piece of finest harness leather. It is 4 inches wide at center of back to give full support when reclining and tapered to 2¼ inches wide at the hips to allow for bending of body. Lined throughout with soft latigo leather.

Made in lengths of 36, 38, 40, 42, 44 and 46 inches. Specify length required measuring from end of buckle to middle hole at other end of belt.

Cat. No.	Description	Width In.	Wt.Lbs. Per Doz.	Price Each
5204-TSO	Standard D Rings	4	36	**$26.50**

KLEIN TOOLS

LEATHER SAFETY STRAPS

These straps are cut from first quality harness leather, back or center stock only. All rivets solid copper, handset with burrs. Snaps and buckles solid steel drop forgings, galvanized finish. Straps may be lengthened or shortened by adjusting buckle. Size, 1¾ inches by 5 ft. 8 inches.

Leather Wear Pad at Buckle

No. 5251

Cat. No.	Description	Wt. Lbs. per Doz.	Price Each
KL-5251	With "Klein-Lok" Snaps..	32½	$16.50
5251	With Standard Snaps.....	32½	15.00

With Stainless Clips

No. 5250

Cat. No.	Description	Wt. Lbs. per Doz.	Price Each
KL-5250	With "Klein-Lok" Snaps..	32½	$16.50
5250	With Standard Snaps.....	32½	15.00

NO. 5215 LEATHER EXTENSION STRAPS

These extension straps are worn permanently attached to one dee ring on body belt. They are brought into use when a large pole makes it necessary to extend the regular safety strap.

Cat. No.	Size In.	Description	Wt. Lbs. Per Doz.	Price Each
5215	1¾x15	With D Ring	15½	$8.00

LEATHER SAFETY STRAPS

No. 5253

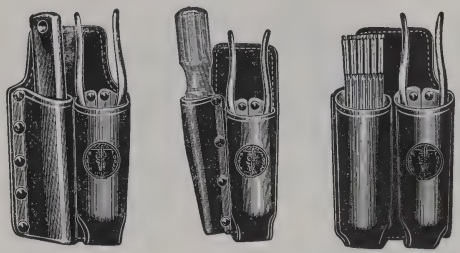
These straps are cut from first quality harness leather, back or center stock only.

Cat. No.	Size In.	Description	Wt. Lbs. Per Doz.	Price Each
KL-5253	2x68	"Klein-Lok" Snaps	40	$18.50
5253	2x68	Standard Snaps	40	17.00
*5257S	2x61½	Bell System Type ..	39	17.50
*5257L	2x70	Bell System Type ..	41	18.50
KL-5258	2x66	"Klein-Lok" Snaps	40	20.50
5258	2x66	Standard Snaps	40	19.00

*With double tongue buckle.

KLEIN TOOLS

COMBINATION TOOL POCKETS



No. 5118-K No. 5118-S No. 5118-R

These pockets are made of heavy harness leather. Opening at bottom prevents accumulation of dirt or water. Top flap of double thickness leather for riveting to belt. (The plier compartment fits 6, 7, 8 and 9-inch side-cutting pliers.)

Cat. No.	Description	Wt. Lbs. Per Doz.	Price Each
5118-K	For Plier and Knife	7½	$4.20
5118-S	For Plier and Screwdriver	5½	4.00
5118-R	For Plier and 6-ft. Rule....	7½	4.20

DETACHABLE HOLSTER

Made of heavy harness leather with loop to slip over belt. Carries 6, 7, 8, or 9-inch side cutting pliers. Mouth of pocket framed to hold open position permanently.

Cat. No.	Length Inches	Wt. Lbs. Per Doz.	Price Each
5116	10	6	$4.20

HIP POCKET TOOL CASE

Made of good quality leather for carrying pliers or other tools in hip pocket; prevents cutting of clothes or possible injury to the person.

Cat. No.	Size In.	Wt. Lbs. Per Doz.	Price Each
5111	5x7	5½	$4.00

RUBBER GLOVE POUCH

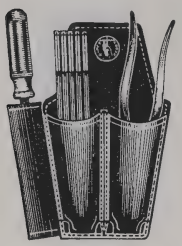
Scotch chrome leather pocket for carrying rubber gloves (folded). Comes equipped with snap and D ring ready to attach to body belt.

No. 5120-15 same as above but larger to accommodate gloves without folding.

Cat. No.	Size Inches	Wt. Lbs. Per Doz.	Price Each
5120-9	7½x9	4½	$6.00
5120-15	7½x15	7	7.50

KLEIN TOOLS

No. 5118-PRS ALL-PURPOSE PLIER POCKET



An all-purpose pouch for pliers, folding rule and screw driver. Openings at bottom. Top of double thickness to permit riveting to belt. Size overall: 8¾ inches high, maximum width 6½ inches.

Cat. No.	Wt. Lbs. Per Doz.	Price Each
5118-PRS	8	.....

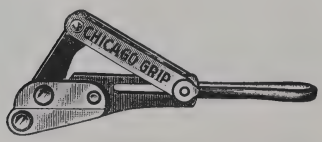
NO. 5102 LINEMEN'S TOOL BAG

Extra heavy white duck reinforced all around the bottom with heavy bag leather, 3¼ inches up. The bottom is made of heavy leather outside and duck inside, lock stitched all around. Has harness leather handles and two retaining straps and buckles. Mouth of bag is formed by a 12-gauge steel frame; and the canvas is clinched between this and inside secondary steel frame.

Cat. No.	Size In.	Wt. Lbs.	Price Each	Cat. No.	Size In.	Wt. Lbs.	Price Each
5102-12	12	2¼	$14.90	5102-20	20	3½	$18.00
5102-14	14	2½	15.80	5102-22	22	3¾	18.70
5102-16	16	3	16.70	5102-24	24	4	19.20
5102-18	18	3¼	17.50	.....	....	.....	.....

"CHICAGO" GRIPS FOR BARE WIRES

(Solid and Strand)



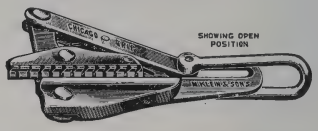
Main body piece and lever are forged steel. Draw parts are of wrought steel. Gripping jaws are machined smooth. Rivets are machine-turned and workmanship throughout is first class.

Cat. No.	Max. Wire Size B&S	Min. Wire Size B&S	Max. Open In.	Safe Load Lbs.	Price Each
1613-30	6 Solid	12 Solid	.22	1500	$5.00
1613-30B	As above but bronze lined jaws				7.50
1613-40	0 Strd.	10 Solid	.44	2250	8.00
1613-40B	As above but bronze lined jaws				13.00
1613-40H	Same as 1613-40 but with safety latch				11.00
1613-50	4/0 Strand	6 Solid	.62	4000	14.00
1613-50B	As above but bronze lined jaws				23.00

KLEIN TOOLS

"CHICAGO" GRIPS FOR INSULATED WIRES

With "Saw-Tooth" Upper Jaw

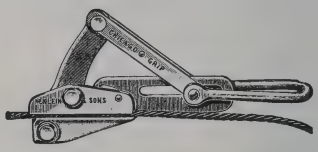


The 1611 series is similar to the 1613 series in construction but the necessary extra width in the jaws is "lipped" out to avoid unnecessary weight. The upper jaw has "saw-tooth" gripping notches.

Cat. No.	Max. Wire Size B&S	Min. Wire Size B&S	Max. Open. In.	Safe Load Lbs.	Price Each
1611-20	4 Solid	10 Solid	.50	2200	$8.00
1611-30	1 Solid	6 Solid	.56	3500	10.00
1611-40	2/0 Strd.	1 Solid	.75	3750	15.50
1611-50	4/0 Strd.	2/0 Strd.	.94	3750	15.50

IMPROVED "CHICAGO" GRIP

For Messenger, Guy Strand and Conductors Up to ½-Inch Diameter



Designed to provide in one tool a grip to handle almost every requirement on the usual job. The jaws have been lengthened and the leverage increased. No. 1628-5B has bronze-lined jaws to prevent slippage. For "all purposes" on any strand or solid wire up to ½-inch diameter with load up to 8000 pounds.

Cat. No.	Description	Price Each
1628-5B	With Bronze-Lined Jaws	$19.50
1628-5	As above but without bronze lining jaws	15.50
1628-5H	As above but with safety latch....	19.50

"CHICAGO" GRIPS FOR STRANDED CONDUCTORS

The 1626 series is similar to the 1613 series construction but the necessary extra width in the jaws is "lipped" out to avoid unnecessary weight. Both gripping jaws are smooth.

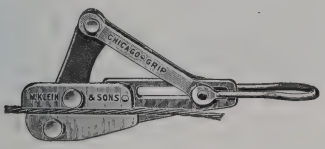
Grips for other size cables made to order.

Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Opening	Safe Load Lbs.	Price Each
1626–39	336Mcm ACSR 400Mcm Copper	3/0 ACSR 4/0 Cop. Str.	.75	3750	$20.50
1626-39B	As above but bronze lined jaws				26.50
1626-40	500Mcm ACSR 600Mcm Copper	397Mcm ACSR 450Mmc Cop.	.97	3750	20.50
1626-40B	As above but bronze lined jaws				26.50
1626–AB*	336Mcm ACSR 400Mcm Copper	3/0 ACSR 4/0 Cop. Str.	.75	8000	33.50

*No. 1626-AB furnished to order. Forged from alloy steel—heat treated bronze-lined jaws.

KLEIN TOOLS

"CHICAGO" GRIPS FOR MESSENGER AND GUY STRAND, HEAVY CABLES, WIRE ROPE, ETC.



These grips fill a long-felt want, taking the heavy loads incident to larger strands without injury to the strand itself. Forged from alloy steel heat-treated. Gripping jaws are machined smooth. Rivets are machine turned and workmanship throughout is first class.

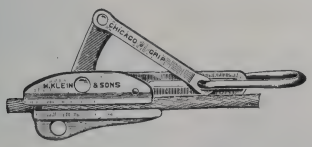
These grips frequently can be modified to accommodate cables of larger diameters. Details on request.

Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Open.	Safe Load Lbs.	Price Each
1628–6	$\frac{1}{2}$" Galv. Steel Strd. 2/0 B&S Copper Strd. 1/0 ACSR	$\frac{1}{4}$" Galv. Steel Strd. 5 B&S Copper Solid	.50	8000	**$26.00**
1628–6B	As above but bronze lined jaws				**34.50**
1628–16	$\frac{5}{8}$" Galv. Steel Strd. 300Mcm Copper Strd. 4/0 ACSR	$\frac{1}{4}$" Galv. Steel Strd. $\frac{1}{4}$" Galv. Steel 1/0 B&S Copper Solid 2 ACSR	.69	15000	**46.00**
1628–16B	As above but bronze lined jaws				**54.00**
1628–16BP	As 1628-16 but jaws extra width. bronze lined 550Mcm Copper Strd. 477Mcm ACSR	1/0 B&S Copper Solid 2 ACSR			**61.50**

Note: Whether used on solid or strand (galvanized, copper or aluminum) it always is important to keep the jaws of grips free from any grease, accumulation of spelter or other metal which may be deposited in the grooves. This will prevent slippage and insure full efficiency.

"CHICAGO" GRIP FOR HOLLOW CORE AND LARGE DIAMETER CABLES

In the case of hollow conductors and other large diameter cables the jaws of the grip must be shaped to provide maximum enclosure and contact with the circumference of the cable itself. When so made the grip will function at maximum efficiency. Slippage is prevented and danger of crushing or collapsing hollow conductors is avoided. For above reasons grips are held in blank and finished as necessary for any particular requirement.

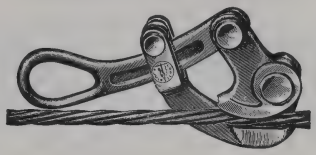


Cat. No.	Maximum Cable Size	Minimum Cable Size	Approx. Max. Open.	Safe Load	Price Each
1628–30B	1000Mcm Hollow Conductor 1250 Mcm Copper Strand 1033Mcm ACSR	350Mcm Hollow Conductor 550Mcm Copper Strand 477Mcm ACSR	1.35	20000	**$138.00**
1628–40B	1250Mcm Hollow Conductor 1750Mcm Copper Strand 1590Mcm ACSR	1000Mcm Hollow Conductor 1250Mcm Copper Strand 1033Mcm ACSR	1.60	25000	**141.50**

Bronze lining of jaws prevents slippage and consequent surface abrasion of conductor.

KLEIN TOOLS

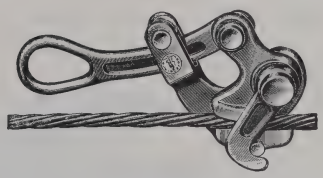
"HAVEN'S" STEEL GRIPS



Improved in design and materials. All parts solid steel drop forgings, heat treated as necessary for maximum strength and service.

Cat. No.	Approx. Max. Opening	Approx. Min. Opening	Safe Load	Wt. Lbs. Per Doz.	Price Each
	For No. 4 B&S Wire and Smaller				
1604-10	$\frac{1}{8}$ in.	$\frac{1}{16}$ in.	2500	12	**$5.50**
	For ½-Inch Wire and Smaller				
1604-20	$\frac{17}{32}$ in.	$\frac{9}{64}$ in.	5000	30	**8.00**
1604L as above but with latch					**10.50**

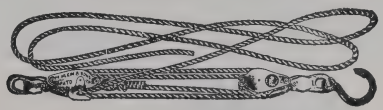
IMPROVED "HAVEN'S" GRIPS



This grip is another improved design. All desirable features have been retained, but by use of alloy steel drop forgings properly heat treated the weight has been reduced at the same time the safe load rating has been increased.

Cat. No.	Approx. Max. Opening	Approx. Min. Opening	Safe Load	Wt. Lbs. Per Doz.	Price Each
1625-20	$\frac{25}{32}$ in.	$\frac{7}{32}$ in.	8000	45	**$16.50**

NO. 1802-30 SELF-LOCKING TYPE



Furnished complete with light galvanized steel shell blocks, fitted with snubbing hook to lock load in any position, and 25 feet ⅜-inch manila rope. To lock the load, it is only necessary to pull the luff rope under the hook; to release, simply pull the rope. Weight each, 3 pounds.

Price, No. **1802-30** Troublemen's Blocks..... **$10.50**
No. **1802-30-S** as above but with swivel anchor hook 259..... **11.00**

SWIVEL ANCHOR HOOK FOR TACKLES

This hook is a solid drop forging. It is 6½ inches long and 3¼ inches across the hook. Swivel clevis and engage readily with snap on Klein Tackles 1802-30 and H-1802-30.

The swivel relieves trouble from twisting and kinking of the rope when used on a slack line. Galvanized finish. Specially shaped to slip under D.P. insulator and engage insulator pin on cross arm.

Cat. No.	Description	Price Each
259	Drop Forged Hook with Swivel.....	**$2.30**

KLEIN TOOLS

NO. 3146 LINEMAN'S WRENCH

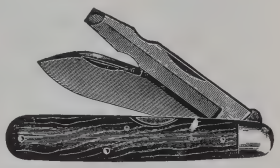
Bell System Type

Forged of select bar steel and is of the open end type with two openings of different size at each end. At the larger end the openings are 1⅛-inch and ⅛-inch, the smaller end ⅛-inch and ⅝-inch. There is a hole provided at the larger end so that wrench may be used for turning in standard pole steps. Particularly adapted for use on the heavier 3-bolt guy clamps on which the clearance for a wrench is limited.

No. 3146-A same as No. 3146 but modified for ¾-inch hardware.

Cat. No.	Length Inches	Wt. Lbs. Per Doz.	Price Each
3146	13	23	**$5.00**
3146-A	13	23	**5.00**

NO. 1550-2 "XELA" ELECTRICIAN'S KNIFE



Blades are made of high grade cutlery steel carefully tempered.

Locking feature on screw-driver blade is simple and of such construction that it does not wear out.

It automatically locks the blade when open, yet a slight pressure of the thumb releases the lock and permits blade to be closed readily; handle of cocobola, hard and durable.

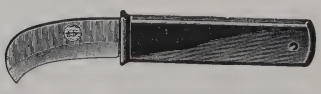
Price, No. **1550-2** Double Blade.....each **$3.50**

NO. 1515-1 CABLE SHEATH SPLITTING KNIFE

Blade tempered and ground to keen edge. Has strong leather handle, securely fastened. Temper-blued finish. A sturdy knife, will stand hard usage. Length overall 8¾ inches; blade 4½ inches.

Price, No. **1515-1** Sheath Splitting Knife.....**$5.00**

NO. 1560-3 SKINNING KNIFE



This skinning knife has "half hard" rubber handle molded on securely and provides adequate insulation as well as a generous grip. Shouldered out at the blade to prevent accidental cutting of glove or finger. Shape of blade brings the point below the curve. Back of blade ground flat for scraping. Hole in handle is through the solid rubber. Forged from first quality cutlery steel individually tempered.

Price, No. **1560-3** Skinning Knife.....each **$3.50**

KLEIN TOOLS

NO. 2100-5 "XELA" ELECTRICIAN'S SCISSORS

A scissors designed for the electrician and mechanic. Will stand continued hard service. Made of high-grade steel properly tempered.

Has a screw hinge, allowing adjustment. Nickel-plated finish.

Price, No. **2100-5** 5-inch.....each **$3.50**

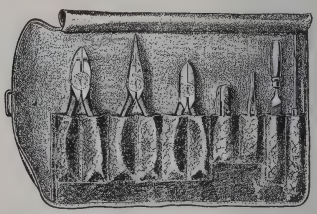
INSPECTOR'S POCKET TOOL KIT

Solid black leather folding case, strongly stitched. Fitted with one each of the following tools:

201-6 Side Cutting Plier.
301-6 Long-Nose Plier.
1550-2 "Xela" Knife.
1 Pair Electrician's Tweezers.
1 Special File.
1 Insulated Screw-driver.

Price, No. **1305-2** Pocket Tool Kit.....each **$22.30**

NO. 1305-33A POCKET TOOL ROLL

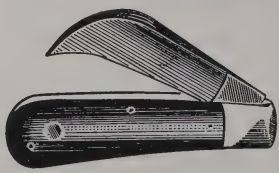


Designed for mechanics, service men, electricians. Keratol Rol with strap and buckle. Size, rolled 8x2½ inches diameter.

Comprises the following:
1 No. 201-6 N. E. Side Cutting Plier
1 No. 301-6 Long Nose Plier
1 No. 202-5 Oblique Cutting Plier
1 No. 1550-2 Electrician's Knife
1 File
1 Pair Electrician's Tweezers
1 Insulated Screwdriver

Price, No. **1305-33A** Pocket Tool Roll..each **$29.90**

No. 1550-4 LINEMEN'S KNIFE



Sturdily constructed knife designed for long, hard service. The 3-inch blade is of fine grade cutlery steel, carefully tempered. The hooked shape makes it ideal for general use.

Selected hardwood handle is rounded and shaped for firm, comfortable grip. When opened, the blade automatically locks in position.

Price, No. **1550-4** Linemen's Knife.....each **$4.00**

SIMONDS HACK SAW BLADES
HAND BLADES

SIMONDS "RED END" HACK SAWS

STANDARD STEEL — All Hard and Hard Edge "The Black Blade"

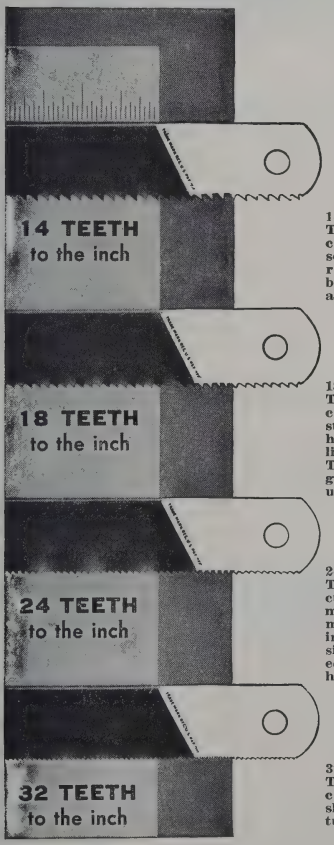
Length and Width	Thickness	Teeth Per Inch	Wt. Lbs. per 100 Blades	Price per 100 Blades
10" x ½"	.025"	18-24-32	3¼	$13.00
12" x ½"	.025"	14-18-24-32	4	16.00

MOLYBDENUM — All Hard and Hard Edge "The Red Blade"

10" x ½"	.025"	18-24-32	4	$51.00
12" x ½"	.025"	14-18-24-32	4½	61.00

HIGH SPEED — All Hard and Hard Edge "The Bright Blade"

10" x ½"	.025"	18-24-32	4¼	$54.00
12" x ½"	.025"	14-18-24-32	4¾	64.00



TOOTH SIZES

14 TEETH TO THE INCH. For cutting soft, solid steel, iron, rails, brass, bronze, copper and aluminum.

18 TEETH TO THE INCH. For cutting tool steels, iron pipe, hard metals and light angle iron. This blade for general shop use.

24 TEETH TO THE INCH. For cutting drill rod, medium sheet metal and tubing. This tooth size is best suited for cutting hard materials.

32 TEETH TO THE INCH. For cutting thin sheet metal and tubing.

The blades illustrated are the Simonds "Red End" Standard Steel Hand Blades.

SIMONDS HACK SAW BLADES
POWER MACHINE BLADES

SIMONDS "RED END" HACK SAWS

MOLYBDENUM
"The Red Blade"

Length and Width	Thickness	Teeth per Inch	Wt. Lbs. 100 Blades	Price Per Blade
12" x ⅝"	.032"	14-18	7	$0.75
x 1	.049	14	17	1.43
x 1	.065	10	23	1.66
14 x 1	.049	10-14	20	1.67
x 1	.065	10	26	1.94
x 1¼	.065	4-6-10	33	2.42
x 1½	.072	2½-4- 6	44	3.08
17 x 1	.049	14	24	2.03
x 1	.065	10	30	2.35
x 1¼	.065	4-6-10	39	2.94
18 x 1	.065	10	34	2.49
x 1¼	.065	4-6-10	43	3.11
x 1½	.072	2½-4- 6	56	3.96
x 2	.085	4- 6	90	5.83
21 x 1½	.072	2½	63	4.62
x 2	.085	4- 6	102	6.80
x 2	.100	2½	122	7.55
24 x 2	.085	4- 6	121	7.77
x 2	.100	4	140	8.63
x 2½	.100	2½	172	10.79
30 x 2½	.100	4	227	13.48

SIMONDS "RED END" HACK SAWS

HIGH SPEED
"The Bright Blade"

Length and Width	Thickness	Teeth per Inch	Wt. Lbs. 100 Blades	Price Per Blade
12" x ⅝"	.032"	14-18	8	$0.88
x 1	.049	14	19	1.68
x 1	.065	10	26	1.95
14 x 1	.049	10-14	22	1.96
x 1	.065	10	29	2.28
x 1¼	.065	4-6-10	36	2.85
x 1½	.072	2½-4-6	48	3.62
17 x 1	.049	14	27	2.38
x 1	.065	10	33	2.76
x 1¼	.065	4-6-10	43	3.46
18 x 1	.065	10	37	2.93
x 1¼	.065	4-6-10	47	3.66
x 1½	.072	2½-4-6	62	4.65
x 2	.085	4- 6	97	6.86
21 x 1½	.072	2½	69	5.43
x 2	.085	4- 6	110	8.00
x 2	.100	2½	130	8.88
24 x 2	.085	4- 6	130	9.14
x 2	.100	4	150	10.15
x 2½	.100	2½	185	12.69
30 x 2½	.100	4	238	15.86
36 x 4½	.125	2½	675	33.94

CAPEWELL HACK SAW BLADES

TECHNITE MOLYBDENUM HIGH SPEED STEEL HACK SAW BLADES

Made from a special alloy high speed steel, heat treated to stand hard service. Recommended for speeding up work in aircraft, ordnance, shipbuilding and industrial production.

Wave set on 24 and 32-tooth. All others raker set.

Hand Hack Saw Blades

Cat. No.	Length Inches	Width Inches	Thickness Inches	Teeth Per In.	Wt. Lbs. Per 100	Price Per 100
1018T	10	½	.025	18	3¾	**$51.00**
1024T	10	½	.025	24	3¾	**51.00**
1032T	10	½	.025	32	3¾	**51.00**
1214T	12	½	.025	14	4½	**61.00**
1218T	12	½	.025	18	4½	**61.00**
1224T	12	½	.025	24	4½	**61.00**
1232T	12	½	.025	32	4½	**61.00**

Power Hack Saw Blades

Cat. No.	Length Inches	Width Inches	Thickness Inches	Teeth Per In.	Wt. Lbs. Per 100	Price Each
T1214-32	12	⅝	.032	14	7	**$0.75**
T1218-32	12	⅝	.032	18	7	**.75**
T1214-44	12	1	.049	14	18	**1.43**
T1210-64	12	1	.065	10	23	**1.66**
T1410-44	14	1	.049	10	21	**1.67**
T1414-44	14	1	.049	14	21	**1.67**
T1410-64	14	1	.065	10	26	**1.94**
T1404-65	14	1¼	.065	4	33	**2.42**
T1406-65	14	1¼	.065	6	33	**2.42**
T1410-65	14	1¼	.065	10	33	**2.42**
T1404-76	14	1½	.072	4	45	**3.08**
T1406-76	14	1½	.072	6	45	**3.08**
T1714-44	17	1	.049	14	24	**2.03**
T1710-64	17	1	.065	10	32	**2.35**
T1704-65	17	1¼	.065	4	40	**2.94**
T1706-65	17	1¼	.065	6	40	**2.94**
T1710-65	17	1¼	.065	10	40	**2.94**
T1810-64	18	1	.065	10	34	**2.49**
T1804-65	18	1¼	.065	4	43	**3.11**
T1806-65	18	1¼	.065	6	43	**3.11**
T1810-65	18	1¼	.065	10	43	**3.11**
T1804-76	18	1½	.072	4	56	**3.96**
T1806-76	18	1½	.072	6	56	**3.96**
T1804-88	18	2	.085	4	90	**5.83**
T1806-88	18	2	.085	6	90	**5.83**
T2104-88	21	2	.085	4	104	**6.80**
T2106-88	21	2	.085	6	104	**6.80**
T2404-88	24	2	.085	4	123	**7.77**
T2406-88	24	2	.085	6	123	**7.77**
T2404-08	24	2	.100	4	141	**8.63**
T3004-00	30	2½	.100	4	225	**13.48**

STANDARD PACKAGE—Hand Blades 100 per box.
Power Blades 10 per box.

Note: All weights given are approximate.

CAPEWELL HACK SAW BLADES

HARD-TUNG—HARD HAND BLADES

An all hard tungsten alloy blade used for general service where fast speeds are not essential. Work should be held rigidly in vise to get best results.

Cat. No.	Length Inches	Width Inches	Thickness Inches	Teeth Per In.	Wt. Lbs. Per 100	Price Per 100
1018	10	½	.025	18	3¼	**$13.00**
1024	10	½	.025	24	3¼	**13.00**
1032	10	½	.025	32	3¼	**13.00**
1214	12	½	.025	14	4	**16.00**
1218	12	½	.025	18	4	**16.00**
1224	12	½	.025	24	4	**16.00**
1232	12	½	.025	32	4	**16.00**

Wave set on 24 and 32-tooth; raker set on 14 and 18 teeth.

FLEX-TUNG—FLEXIBLE HAND BLADES

Tungsten alloy steel. Teeth hardened and tempered—flexible back. The soft back makes it a useful blade for cutting in difficult positions. Used by electricians, plumbers, automotive mechanics, and for miscellaneous work.

Cat. No.	Length Inches	Width Inches	Thickness Inches	Teeth Per In.	Wt. Lbs. Per 100	Price Per 100
1018F	10	½	.025	18	3¼	**$13.00**
1024F	10	½	.025	24	3¼	**13.00**
1032F	10	½	.025	32	3¼	**13.00**
1214F	12	½	.025	14	4	**16.00**
1218F	12	½	.025	18	4	**16.00**
1224F	12	½	.025	24	4	**16.00**
1232F	12	½	.025	32	4	**16.00**

Wave set on 24 and 32-tooth; raker set on 14 and 18 teeth.

No. C6 PIGMY HACK SAW BLADE

With pins, hard teeth, flexible back, wave set. For wire and other frames using blade of this type. Cuts smoothly, removes very little stock. Length 6 inches; width ¼ inch. Thickness .014 inch—32 teeth. Packed 100 in a box. Weight ¾ lb. **$10.00**

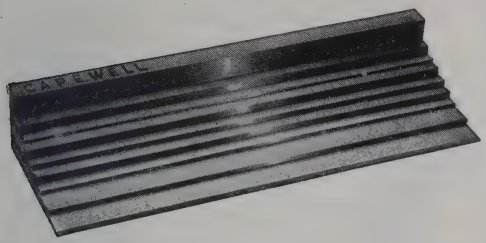
FLEXLOY HACK SAW BLADES

Hard throughout, yet tough—flexible—teeth will not strip. Unbreakable in a hack saw frame.

Cat. No.	Length Inches	Width Inches	Thickness Inches	Teeth Per In.	Wt. Lbs. Per 100	Price Per 100
1018C	10	½	.025	18	3¼	**$13.00**
1024C	10	½	.025	24	3¼	**13.00**
1032C	10	½	.025	32	3¼	**13.00**
1214C	12	½	.025	14	4	**16.00**
1218C	12	½	.025	18	4	**16.00**
1224C	12	½	.025	24	4	**16.00**
1232C	12	½	.025	32	4	**16.00**

Standard Package—100 blades per box.

CAPEWELL PRECISION GROUND FLAT STOCK



A special type tool steel. Made in thicknesses ranging from $\frac{1}{64}$ to 1 inch, it is properly annealed to machine easily. Ground to within .001 inch in thickness — squared on both edges and ends. Time and labor is saved in making gauges, jigs, machine parts, templets, punches, dies, fixtures, stamps, shims, etc.

May be hardened either in oil or water. Oil quench on sizes $\frac{3}{32}$ in. and under prevents distortion. Stock should be thoroughly and uniformly heated before quenching. Each piece packed in a grease and acid proof envelope with directions for heat treating.

Prices upon application.

No. CGS—Sizes and Prices
All Pieces 18 Inches Long

Thickness	1/64"		1/32"		3/64"		1/16"	
	Per Piece		Per Piece		Per Piece		Per Piece	
Width Inches	Wt. Lb.	Price	Wt. Lb.	Price	Wt. Lb.	Price	Wt. Lb.	Price
¼	.....	.....	.....	.....	.....	.....	.....	.....
$\frac{5}{16}$	.....	.....	.....	.....	.....	.....	.....	.....
½	.....	.....	.08	$1.10	.12	$1.10	.16	$0.77
¾	.....	.....	.12	1.10	.....	.....	.24	.83
1	.08	$1.60	.16	1.16	.24	1.10	.32	.94
1¼	.....	.....	.....	.....	.....	.....	.39	1.10
1½	.12	1.93	.25	1.49	.36	1.38	.48	1.32
2	.16	2.31	.33	1.87	.48	1.76	.63	1.65
2½	.21	2.75	.40	2.26	.60	2.20	.80	1.98
3	.26	3.30	.51	2.70	.72	2.59	.95	2.42
3½	.....	.....	.56	3.14	.....	.....	1.12	2.86
4	.34	4.46	.63	3.69	.95	3.41	1.25	3.41
5	.....	.....	.80	5.50	1.22	4.95	1.59	4.46
6	.....	.....	.96	7.21	1.43	6.77	1.90	6.33
	3/32"		1/8"		5/32"		3/16"	
½	.24	$1.05	.32	$1.16	.43	$1.27	.48	$1.49
¾	.35	1.16	.48	1.32	.61	1.38	.72	1.65
1	.48	1.32	.64	1.43	.79	1.60	.95	1.76
1¼	.....	.....	.80	1.60	.....	.....	1.19	1.98
1½	.73	1.60	.95	1.71	1.20	1.98	1.44	2.26
2	.97	1.87	1.29	1.98	1.61	2.53	1.91	2.70
2½	1.18	2.15	1.59	2.26	2.01	3.08	2.40	3.08
3	1.44	2.53	1.91	2.70	2.38	3.63	2.87	3.58
3½	1.68	3.03	2.22	3.14	2.75	3.85	3.35	4.18
4	1.92	3.52	2.58	3.63	3.16	4.18	3.82	4.79
5	2.37	4.95	3.20	5.06	.....	.....	4.82	6.33
6	2.87	6.77	3.80	7.15	.....	.....	5.76	8.09
	7/32"		1/4"		5/16"		3/8"	
¼	.....	.....	.32	$1.87	.....	.....	.....	.....
$\frac{5}{16}$	.....	.....	.....	.....	.49	$2.31	.....	.....
⅜	.....	.....	.....	.....	.....	.....	.71	$2.75
½	.....	.....	.64	1.71	.80	2.26	.96	2.81
¾	.....	.....	.95	1.93	.....	.....	1.44	3.03
1	1.12	$1.93	1.27	2.15	1.64	2.75	1.90	3.25
1½	1.67	2.42	1.92	2.70	2.37	3.25	2.86	3.69
2	2.24	2.97	2.55	3.25	3.20	3.85	3.84	4.35
2½	2.77	3.41	3.19	3.91	4.00	4.68	4.76	5.28
3	3.35	3.96	3.82	4.68	4.74	5.50	5.72	6.33
3½	.....	.....	4.47	5.45	.....	.....	.....	.....
4	4.48	5.45	4.91	6.33	6.41	7.21	7.67	8.09
5	.....	.....	6.38	8.03	8.02	9.46	9.57	10.95
6	.....	.....	7.46	9.85	9.62	10.89	11.50	12.10
	1/2"		5/8"		3/4"		1"	
½	1.29	$3.25	.....	.....	.....	.....	.....	.....
⅝	.....	.....	2.02	$4.02	.....	.....	.....	.....
¾	1.92	3.91	.....	.....	2.88	$4.62	.....	.....
1	2.54	4.73	3.18	5.17	3.81	5.56	5.00	$5.89
1½	3.83	5.39	.....	.....	.....	.....	.....	.....
2	5.09	6.00	6.35	8.03	7.62	9.35	10.18	10.12
3	7.56	7.98	9.54	11.06	11.43	12.76	15.12	15.07
4	10.16	9.96	12.70	13.81	15.24	17.05	20.32	19.47
5	12.70	13.81	15.88	17.66	19.05	21.01	30.24	28.66
6	15.24	15.95	19.05	20.24	22.86	22.94	40.62	37.57

CAPEWELL BALL PEIN HAMMERS

Furnished in 8, 12, 16, 20, 24 and 32 ounce sizes.

Polished face, bevel, poll and pein. Hickory handle.

Cat. No.	Wt. Oz. Each	Price Each	Cat. No.	Wt. Oz. Each	Price Each
208BP	8	$1.55	220BP	20	$1.90
212BP	12	1.65	224BP	24	2.05
216BP	16	1.75	232BP	32	2.25

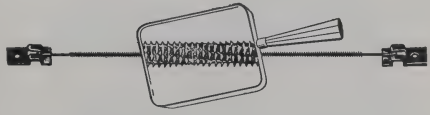
All packed one-half dozen in a box.

CAPEWELL HACK SAW FRAMES

One piece steel tube back, fitted into precision-machined cast-aluminum handle, permits tightening of blade to high tension and maintenance of true alignment without twisting the blade or warping the frame. Weight, 1 lb. 6 ozs.

Price, Capewell Hack Saw Frame.....each **$4.55**

CAPEWELL "DAFILES" 360° ALL-PURPOSE SAW



Cuts any material in any direction. Can be used for high speed cutting in a power jig. Fits any standard hacksaw frame when used with Capewell Dafile links.

Packed one dozen Dafiles of Specified cut, either Smooth, Medium, or Rough but not Assorted. Links packed one dozen pairs per package.

Alternative Packing: Set of 3 Dafiles (1 Rough, 1 Medium, 1 Smooth) and 1 pair of links, in each package.

Prices:

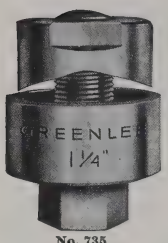
D-10, 10 inch.....per doz. **$ 3.80**
D-12, 12 inch.....per doz. **4.50**
D-L Links (pair).....per doz. **2.00**

(Add R for Rough, M for Medium, S for Smooth finish.)

DS-10, Set of 10 inch.....doz. sets **$13.20**
DS-12, Set of 12 inch.....doz. sets **16.20**

GREENLEE KNOCKOUT TOOLS

NO. 735 KNOCKOUT PUNCH SET



No. 735

This set is furnished with a leather case in which the punches are regularly packed. The set consists of 4 punches for cutting ⅞, 1 3/32, 1 11/32, 1 11/16-inch holes for ½, ¾, 1, and 1¼-inch conduit.

Improved Drive for ½-Inch Punch

To increase the length of service of the ½-inch Punch in cutting ⅞-inch holes in the heavier-gauge sheet metals, the No. 1387AV Drive Screw and No. 1388AV Drive Nut are available. These fit the standard No. AV121 Punch and No. AV122 Die for ½-inch conduit, as furnished with the No. 735 Set, and they take the place of No. AV322 ⅜-inch Cap Screw.

NO. 737 KNOCKOUT PUNCH SET

This set is packed in a leather case, similar to No. 735, but it consists of only two punches for cutting 1 11/16 and 2⅜-inch holes to take 1½ and 2-inch conduit.

KNOCKOUT PUNCHES

By adding these punches to Nos. 735 and 737 Sets, enlargements can be made for all sizes of conduit from ½ to 4-inch inclusive. No. 738 cuts a 2⅞-inch hole for 2½-inch conduit. No. 739 cuts a 3½-inch hole for 3-inch conduit, No. 741 cuts a 4-inch hole for 3½-inch conduit, and No. 742 cuts a 4½-inch hole for 4-inch conduit.

No. 738

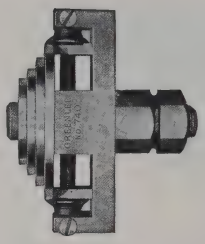
Cat. No.	Description	Price
735	Knockout Punch Set for ½, ¾, 1, and 1¼-inch conduit	$10.00
.....	Improved Drive for ½-inch Punch	1.10
737	Knockout Punch Set for 1½ and 2-inch conduit	10.00
738	Knockout Punch for 2½-inch conduit	14.00
739	Knockout Punch for 3- inch conduit	19.00
741	Knockout Punch for 3½-inch conduit	39.00
742	Knockout Punch for 4- inch conduit	48.00

Extra Parts

No. 735 Knockout Punch Set		
	AV121—Punch for ½" Conduit	$1.25
	AV122—Die for ½" Conduit	.65
	AV123—Punch for ¾" Conduit	1.45
	AV124—Die for ¾" Conduit	.80
	AV125—Punch for 1" Conduit	1.65
	AV126—Die for 1" Conduit	.95
	AV127—Punch for 1¼" Conduit	1.90
	AV128—Die for 1¼" Conduit	1.05
	AV322—⅜" x 1¾" Cap Screw	.25
	AV249—⅜" x 2⅞" Cap Screw	.35
Improved Drive for ½" Punch		
	1387AV—Drive Screw	.75
	1388AV—Drive Nut	.35
No. 737 Knockout Punch Set		
	AV439—Punch for 1½" Conduit	2.30
	AV440—Die for 1½" Conduit	2.00
	AV441—Punch for 2" Conduit	3.20
	AV442—Die for 2" Conduit	2.50
	AV304—⅜" x 3½" Cap Screw	.50
No. 738 Knockout Punch		
	AV1429—Punch for 2½" Conduit	5.40
	AV1430—Die for 2½" Conduit	5.00
	AV1433—Drive Nut	1.35
	AV1434—Drive Screw	2.75
No. 739 Knockout Punch		
	AV1431—Punch for 3" Conduit	8.00
	AV1432—Die for 3" Conduit	7.50
	AV1433—Drive Nut	1.35
	AV1434—Drive Screw	2.75
No. 741 and No. 742 Knockout Punches		
	AV2981—Die for 3½" Conduit	14.00
	AV2982—Punch for 3½" Conduit	18.00
	AV2983—Die for 4" Conduit	18.00
	AV2984—Punch for 4" Conduit	24.00
	AV3026—Drive Screw (for both punches)	6.00
	AV3036—Drive Nut (for both punches)	2.50
	AV3037—Bushing (for both punches)	2.25

GREENLEE KNOCKOUT TOOLS

NO. 740 KNOCKOUT CUTTER



Greenlee Knockout Cutters enlarge holes up to 3½ inches in diameter. Will cut through metal up to 10 gauge or ⅛-inch thickness in 1½ minutes or less per hole. The hole is left clean and round, requiring no filing to smooth off the edges.

Operation is simple. The cutting is done by the feed and drive action of two-wheel cutters.

Knockout Cutter

Cat. No.	Description	Price Each
740	For 1½", 2", 2½", and 3" Conduit	$15.00

Extra Parts

AV323	Lock Screws (2)	.30
AV324	Wheel Cutters (2)	.50
AV325	Feed Nut	.20
AV326	Disc 1 11/16" for 1½" Conduit	.70
AV2021	Disc 2⅜" for 2 " Conduit	.80
AV2022	Disc 2⅞" for 2½" Conduit	1.00
AV2023	Disc 3½" for 3 " Conduit	1.20
AV327	Body	5.00
AV328	Shaft	.80
AV329	Drive Nut	.80
AV330	Retainer Screws (2)	.45
AV331	Cutter Bushings (2)	.25
AV332	Cutter Supports (2)	.65
AV333	Key Washer	.25
AV334	No. 7 Woodruff Key	.05

CARBOLOY "LIVE-SPIRAL" MASONRY DRILLS

New principle lifts out dust—permits continuous drilling — faster, easier, cleaner, deeper.

Carboloy "Live-Spiral" Drills fit any rotary drill, hand brace or drill press.

Available in three Kit Assortments: Kit A, 6 drills, $13.35; Kit B, 6 drills, $15.90; Kit C, 3 drills, $6.55.

"Live-Spiral" Drills

Cat. No.	Nominal Dia.	List Price Each	Std. †Pkg.	Shank Size Dia.	Shank Size Lgth.	Drill Lgth.	Min. Actual Drill Dia.
DM-3	7/32	$1.65	12	5/32	.....	3	.198
WDM-4	¼	1.75	12	¼	.....	4	.260
WDM-5	5/16	1.90	12	¼	.....	4	.328
WDM-6	⅜	2.10	12	⅜	.....	4	.390
WDM-7	7/16	2.45	6	⅜	.....	6	.458
WDM-8	½	2.70	6	⅜	.....	6	.525
WDM-9	9/16	3.00	3	7/16	.....	6	.587
WDM-10	⅝	3.25	3	½	.....	6	.650
WDM-12	¾	4.20	3	½	1⅝	6	.775
WDM-14	⅞	5.00	3	½	1⅝	6	.905
WDM-16	1	7.15	3	½	1⅝	6	1.030
Fluted Drills							
FDM-18	1⅛	9.55	1	½	1⅝	6	1.160
FDM-20	1¼	11.55	1	½	1⅝	10	1.285
FDM-24	1½	14.20	1	½	1⅝	10	1.535

*Sufficient oversize allowances are provided for proper hole size required for installation of expansion shields, anchors and toggle bolts.

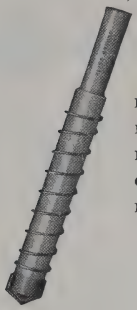
†All drills are individually packaged, complete with operating instructions.

How to Order: Specify drill order number. (Order in standard package quantities whenever possible.)

PAINE "SUDDEN DEPTH" CARBOLOY TIPPED DRILL BITS

WITH AUTOMATIC DUST EJECTOR

FAST
ACCURATE
SILENT



HOLDS EDGE MANY TIMES LONGER THAN ORDINARY DRILLS

Fig. 365

Finest tool steel with Carboloy tip (Diamond-like hardness) — especially designed for expansion anchor installation.

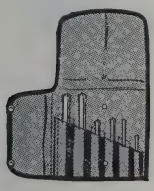
The "Sudden Depth" Drills are equipped with automatic dust ejector — a thin durable wire wound around the shank that spirals the dust and dirt out of the hole when drilling. Holes are kept clean, permitting the drills to bite into concrete and masonry with maximum speed and less wear.

Use in any hand or portable drill (slow speed) — the harder the material the slower the speed. Can be used continuously without cooling agent — will not harm the most fragile material.

Fig. 365

Drill Diam.	List Price Each Fluted	List Price Each Round	Actual Min. Drill Diam.	Shank Diameter Round	Shank Diameter Fluted	Overall Length
3/16"*	.....	$1.65	.198	5/32"	.....	3"
1/4"	.....	1.75	.260	3/16"	.....	4"
5/16"	.....	1.90	.328	1/4"	.....	4"
3/8"	.....	2.10	.390	5/16"	.....	4"
7/16"	.....	2.45	.458	3/8"	.....	6"
1/2"	.....	2.70	.525	3/8"	.....	6"
9/16"	.....	3.00	.587	7/16"	.....	6"
5/8"	.....	3.25	.650	1/2"	.....	6"
3/4"	.....	4.20	.775	1/2"	.....	6"
7/8"	.....	5.00	.905	1/2"	.....	6"
1"	.....	7.15	1.030	1/2"	.....	6"
1 1/8"*	$9.55	.....	1.160	.....	1/2"	6"
1 1/4"*	11.55	.....	1.285	.....	1/2"	10"
1 1/2"*	14.20	.....	1.535	.....	1/2"	10"

*Sizes 3/16, 1 1/8, 1 1/4 and 1 1/2 inch furnished without dust ejector.



CARBOLOY TIPPED DRILL BIT KITS

Packed in kits or individually boxed.

Kit No. A
One each—Sizes 3/16", 1/4", 5/16", 3/8", 1/2", 5/8"..... list price each kit **$13.35**

Kit No. B
3/4"..... list price each kit **$15.90**

Kit No. C
One each—Sizes 1/4", 3/8", 1/2"..... list price each kit **$6.55**

DI◇FORGE TWIST DRILLS

Patented

Cat. No. 720

Forged from a solid bar of Vanadium Tool Steel. This process produces a tougher and more durable drill than can be had by the machine process. It is intended to be used with a hand or electric hammer and not as a rotating drill.

Diameter Inches	Length Overall Inches	Depth of Hole Inches	Wt. Lbs. Per Doz.	Price Per Doz.
3/16	2 3/4	1 5/8	1/2	$10.80
1/4	3 1/4	1 3/4	3/4	10.80
5/16	4 1/4	2 1/2	1	12.80
3/8	5	3	1 1/4	14.80
7/16	5 1/4	3 1/4	1 1/2	18.80
1/2	5 3/4	3 1/4	2	22.80
9/16	5 7/8	3 3/4	2 1/2	26.80
5/8	6 1/8	4	2 1/2	28.80

DI◇FORGE TWIST DRILL SETS

Put up in sets containing one holder and one each 3/16, 1/4, 5/16, 3/8, 7/16, and 1/2-inch DI◇FORGE twist drill points.

With Type C Holder, No. 755-S.....per set **$8.00**
With Type B Holder, No. 750-S.....per set **7.00**

DIAMOND DRILL HOLDERS

To fit Diamond Di-Forge and Diamond N point.

Cat. No. 750

Style B Drill Holder.....per doz. **$24.00**

Cat. No. 755

Style C Holder, Rubber Grip.....per doz. **$48.00**

DIAMOND N DRILLS

Cat. No. 700

4 Point Drills

Cat. No. 710

Single Point Drill

PRICE PER DOZEN

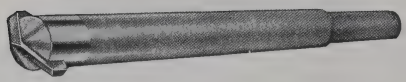
Lgth. In.	Diameter Drill, In. 1/4	5/16	3/8	7/16	1/2	9/16 & 5/8	11/16 & 3/4
8	$8.25	$8.25	$8.25	$8.70	$9.65	$11.65	$13.70
12	8.50	8.50	8.50	9.00	10.00	12.00	14.00
18	11.00	11.00	11.00	11.50	12.50	15.00	17.50
24	13.50	13.50	13.50	14.00	15.00	17.50	20.00

Lgth. In.	Diameter Drill, In. 11/16 & 3/4	1	1 1/16	1 1/4	1 5/16	1 1/2
8	$15.30	$17.00	$23.00	.....	.....	.....
12	16.00	18.00	24.00	$30.00	$40.00	$50.00
18	20.00	22.50	28.00	35.00	45.00	56.00
24	22.50	25.00	32.00	40.00	50.00	62.00

Lgth. In.	Diameter Drill, In. 1 5/16	1 3/8	1 7/16	2	2 1/16	2 1/8
12	$60.00	$75.00	$90.00	$105.00	$135.00	$165.00
18	66.00	81.00	97.00	112.00	145.00	175.00
24	72.00	87.00	104.00	120.00	165.00	195.00

DIAMOND ROTARY DIAMIDE DRILLS

FOR ROTARY DRILLING OF MASONRY



For easier, quicker drilling of concrete, brick, slate, marble, plaster, glazed tile and other non-metallic construction material.

Cat. No.	Drill Diam.	Shank Diam.	Overall Length	Std. Pkg.	Price Each
	For Use with ¼-Inch Capacity Drill				
DK3	3/16	⅛	4	12	$1.40
DK4	¼	5/16	5	12	1.40
DK5	5/16	¼	5	12	1.50
DK6	⅜	¼	5	12	1.60
DK7	7/16	¼	6	12	1.85
DK8	½	¼	6	12	2.05
DK9	9/16	¼	6	12	2.30
	For Use with ½-Inch Heavy Duty Drill				
DK8A	½-A	½	8	12	2.05
DK10	⅝	½	8	6	2.45
DK11	11/16	½	8	6	2.95
DK12	¾	½	8	6	3.15
DK13	13/16	½	8	6	4.25
DK14	⅞	½	8	6	4.60
DK16	1	½	10	6	6.30
DK18	1⅛	½	10	6	7.85
DK20	1¼	½	10	6	9.35
DK24	1½	½	10	6	11.60

Any rotary type of drill can be used to operate Diamide Drills, and they will perform satisfactorily at speeds normally attainable in such equipment.

DIAMOND BULL POINTS

Cat. No. 775

Steel, In.	12-In. Length Wt. Lbs. Each	12-In. Length Price Each	18-In. Length Wt. Lbs. Each	18-In. Length Price Each	24-In. Length Wt. Lbs. Each	24-In. Length Price Each
½	¾	$0.43	1⅛	$0.51	1½	$0.59
⅝	1¼	.52	2	.63	2½	.77
¾	1½	.58	2¼	.73	3	.88
⅞	2	.73	3	.93	4	1.13
1	2¾	.96	4¼	1.24	5¾	1.52
1⅛	3½	1.20	5¼	1.55	7	1.90
1¼	4¼	1.46	6½	1.90	8¾	2.34
1½	6¼	2.08	9½	2.73	12¾	3.37

30-inch and 36-inch lengths made to order.

GREENLEE ELECTRICIAN'S BITS

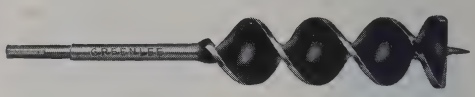
No. 18 UNISPUR POWER BIT

A fast-boring, double-twist auger bit especially designed for electric drill use, having a twist length of 5½ inches, a shank diameter of 23/64 inch, and an over-all length of 8½ inches.

Size 16ths	Price Per Doz.	Size 16ths	Price Per Doz.	Size 16ths	Price Per Doz.
11	$18.75	13	$21.40	16	$24.50
12	18.75	14	21.40	....	.....

GREENLEE ELECTRICIAN'S BITS

No. 87 POWER PIPE BITS



These bits are specifically patterned for the plumber or electrician to bore holes for pipe or conduit. Double-twist type, having twist lengths ranging from 7¼ to 8½ inches, with overall dimensions from 14 to 17 inches.

Size Inches	Description	Packing Per Box	Price Per Doz.
1¼	For ¾-inch pipe	6	$42.75
1½	For 1- inch pipe	6	51.00
1¾	For 1¼-inch pipe	3	60.25
2	For 1½-inch pipe	3	69.50
2½	For 2- inch pipe	2	108.00

GREENLEE EXPANSIVE BITS

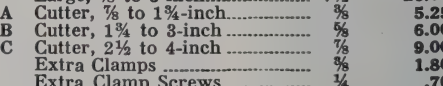
NOS. 3 AND 4 PLAIN EXPANSIVE BITS

Standard packing, one in box; half dozen in carton.

Cat. No.	Description	Wt. Lbs. Per Doz.	Price Per Doz.
3	Small, ½ to 1½-inch	3⅛	$20.00
3A	Cutter, ½ to ⅞-inch	⅛	3.00
3B	Cutter, ⅞ to 1½-inch	¼	3.75
	Extra Clamps	⅛	1.44
	Extra Clamp Screws	⅛	.60
4	Large, ⅞ to 3-inch	7½	26.00
4A	Cutter, ⅞ to 1¾-inch	⅜	5.25
4B	Cutter, 1¾ to 3-inch	⅝	6.00
4C	Cutter, 2½ to 4-inch	⅞	9.00
	Extra Clamps	⅜	1.80
	Extra Clamp Screws	¼	.70

NOS. 5 AND 6 SETFAST EXPANSIVE BITS

(Patent No. 1,727,452)



Standard Packing in leatherette case; one in box, half dozen in carton.

Cat. No.	Description	Wt. Lbs. Per Doz.	Price Per Doz.
5	Small, ⅝ to 1¾-inch	5	$33.00
5A	Cutter, ⅝ to 1⅛-inch	¼	4.50
5B	Cutter, 1⅛ to 1¾-inch	⅜	5.65
	Extra Adjusting Barrels	⅛	2.25
	Extra Eccentric Pins	⅛	2.25
6	Large, ⅞ to 3-inch	8¼	39.00
6A	Cutter, ⅞ to 1¾-inch	⅜	7.90
6B	Cutter, 1¾ to 3-inch	⅝	9.00
6C	Cutter, 2½ to 4-inch	⅞	13.50
	Extra Adjusting Barrels	¼	2.70
	Extra Eccentric Pins	¼	2.70

MEPHISTO TOOLS

MEPHISTO FEELER BIT NO. 118

Size	Wt. Lbs. Per Doz.	Price Per Doz.
4/16 x 18 inches	2½	$18.00
4/16 x 24 inches	4	22.80
6/16 x 18 inches	5½	21.00
6/16 x 24 inches	7	24.00

NO. 900 ELECTRICIAN'S BIT

Size	Wt. Lbs. Per Doz.	Price Per Doz.
10/16-Inch	2½	$11.40
11/16-Inch	3	12.50
12/16-Inch	3¼	13.20
13/16-Inch	3¼	13.80
14/16-Inch	4	14.60
16/16-Inch	4½	16.20
18/16-Inch	6	19.80

NO. 240 CAR OR LINEMAN'S BIT

14-Inch Overall — 10-Inch Twist

Size	Wt. Lbs. Per Doz.	Price Per Doz.
10/16-Inch	5	$16.20
11/16-Inch	5½	18.00
12/16-Inch	6	19.80

No. 280 CAR OR LINEMAN'S BIT

18-Inch Overall—14-Inch Twist

Size	Wt. Lbs. Per Doz.	Price Per Ooz.
10/16-Inch	7	$22.80
11/16-Inch	7½	24.00
12/16-Inch	8	25.80

MEPHISTO SPEED TERROR NO. 999 CENTER STEM MEPHISTO HEAD

Size	Wt. Lbs. Per Doz.	Price Per Doz.
10/16-Inch	3½	$11.40
11/16-Inch	4	12.50
12/16-Inch	4¼	13.20

NO. 5 P.E. POWER ELECTRIC BIT

Size	Description	Price Per Doz.
12/16-Inch	Proper Size for ⅜-Inch Pipe	$25.20
14/16-Inch	Proper Size for ½-Inch Pipe	27.00
18/16-Inch	Proper Size for ¾-Inch Pipe	31.20
22/16-Inch	Proper Size for 1 -Inch Pipe	38.40
24/16-Inch	Proper Size for 1⅛-Inch Pipe	42.00
28/16-Inch	Proper Size for 1¼-Inch Pipe	48.00
32/16-Inch	Proper Size for 1½-Inch Pipe	60.00
40/16-Inch	Proper Size for 2 -Inch Pipe	72.00

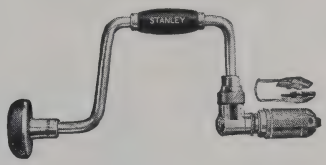
STANLEY TOOLS

BIT EXTENSIONS

These tools extend a bit so that user can bore through walls, floors, etc., where the bit alone will not reach. Will follow an ⅛-inch bit. Bit capacity 1-inch. Shank and socket are forged in one piece. Sleeve is made of seamless steel tubing. Nickel plated.

Cat. No.	Lgth. In.	Wt.Lbs. ½ Doz.	Price Each	Cat. No.	Lgth. In.	Wt.Lbs. ½ Doz.	Price Each
180	12	4½	$3.20	180	24	7½	$3.70
180	18	5½	3.30	------	----	------	--------

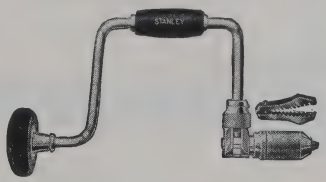
RATCHET BIT BRACE



Forged Universal jaws will take round bits and drills from ⅛ to ½-inch inclusive, and taper shanks as large as Clark's No. 2 Expansive Bit.

Cat. No.	Sweep Inches	Wt. Lbs. ½ Doz.	Price Each
923	8	6¼	$8.25
923	10	6¾	8.25
923	12	7⅛	8.60

OPEN RATCHET BIT BRACE

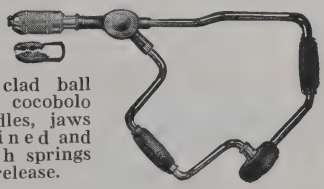


Nickel plated. Ball bearing head. Large round nose chuck. Black hardwood head and handle. Cast alligator jaws.

Cat. No.	Sweep Inches	Wt. Lbs. ½ Doz.	Price Each
965N	8	12½	$3.70
965N	10	14	3.70
965N	12	16	3.90

CORNER BIT BRACES

Made in two styles of chucks or jaws. Nickel plated, metal clad ball bearing head, cocobolo head and handles, jaws forged, machined and hardened, with springs for automatic release.



Universal Jaws

Cat. No.	Sweep Inches	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
993	9	2	9	$16.00

MEPHISTO TOOLS

ALL STEEL WOOD CHISEL NO. 28

Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.	Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.
¼	1¼	$ 9.00	1	9	$12.00
⅜	1½	9.00	1¼	10	13.20
½	2¾	9.60	1½	13	16.20
⅝	3½	10.20	2	17	21.00
¾	5½	11.40	------	----	----------

COLD CHISEL NO. 6

Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.	Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.
¼x 4½	¾	$2.80	¾x 7½	11	$7.20
⅜x 5	1	3.24	¾x 9	14	9.00
⅜x 5½	2¼	3.60	¾x12	18	9.96
⅜x10	4	4.80	¾x18	28	13.20
½x 6	3¼	3.84	⅞x 8	15½	9.00
½x 6½	4½	4.56	1 x 8½	20	10.80
½x12	8	7.20	1 x12	33	15.00
⅝x 7	7½	5.88	1 x18	48	19.20
⅝x12	12½	7.80	1 x24	66	27.00

PLUMBERS' FLOOR CHISEL

Cat. No.	Size Inches		Wt. Lbs. Per Doz.	Price Per Doz.
021	2½ x 12	(Hammered steel)	18	$17.16
022	3 x 12	(Hammered steel)	19	18.00

CARPENTER'S FLOOR CHISEL NO. 209

Size Inches		Wt. Lbs. Per Doz.	Price Per Doz.
2 x 7	----------	6	$9.60

SNIPS NO. 700

Size Inches		Wt. Lbs. Per Doz.	Price Per Doz.
7	----------	6½	$12.00
10	----------	11½	14.40
12	----------	18	17.40

CIRCULAR SNIPS NO. 701

For cutting out difficult patterns and curves, making a fine smooth cut and not bending the metal.

Size Inches		Wt. Lbs. Per Doz.	Price Per Doz.
7	----------	6½	$14.40
10	----------	11½	17.40
12	----------	18	21.00

MEPHISTO TOOLS

MEPHISTO COMPASS SAW

Complete with handle.

Cat. No.	Description	Wt. Lbs. Per Doz.	Price Per Doz.
64C	12-inch Duplex ----------	6¼	$17.40
64C	14-inch Duplex ----------	6¾	18.00
	Compass Saw Blades		
64B	12-inch Duplex ----------	2¼	11.40
64B	14-inch Duplex ----------	2¾	12.00

SPECIAL SCREW DRIVER NO. 499

Insulated. Unbreakable handle.

Size Inches	Wt. Lbs. Per Doz.	Price Each	Size Inches	Wt. Lbs. Per Doz.	Price Each
2	3	$0.75	6	5½	$1.00
3	3½	.80	8	7	1.15
4	4½	.90	10	9	1.40
5	5	.95	12	11	1.60

CABINET SCREW DRIVER NO. 491

Insulated handle.

Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.	Size Inches	Wt. Lbs. Per Doz.	Price Per Doz.
3	1¼	$6.30	6	1¾	$8.40
4	1½	7.20	8	2	9.00
5	1½	7.80	10	2¼	9.60

YANKEE SCREW DRIVERS

SPIRAL RATCHET

These drive or draw screws by pushing on the handle or by a ratchet movement, or they can be made rigid as an ordinary screw driver. Movement is changed instantly by a simple shifter; spindle can be locked closed. Three bits of different sizes furnished with each driver; of extra high quality steel and thoroughly tested. Metal parts nickel plated; handle hardwood, handsomely polished.

No. 30-A, standard size. No. 31-A, heavy style for large screws.

Cat. No.	Lgth. with Bit, Closed	Wt. Lbs. Per Doz.	Price Each
30-A	13	13½	$8.40
31-A	16¾	21	10.54

BROWN & SHARPE SMALL TOOLS
MICROMETER CALIPERS Nos. 5 AND 5RS
English Measure—Range, 0 to ½ Inch
Has Carbide Measuring Faces

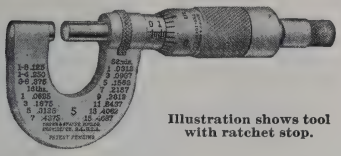


Illustration shows tool with ratchet stop.

English Measure—Measures all sizes less than ½ inch by thousandths of an inch.

Metric Measure—No. 5RS only made to measure all sizes less than 13 millimeters by hundredths of a millimeter. When so made, the table of decimal equivalents is omitted.

Cat. No.	Description	Price Each
5	Micrometer Caliper	$13.25
5RS	Micrometer Caliper with Ratchet Stop	14.00
	Case	1.80

Packed one in a box.

MICROMETER CALIPERS Nos. 6 AND 6RS
English Measure—Range, 0 to ½ Inch
Has Carbide Measuring Faces

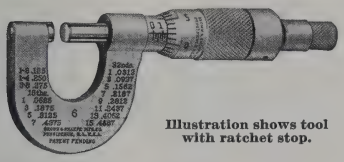


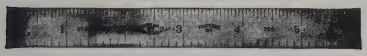
Illustration shows tool with ratchet stop.

English Measure — Measures all sizes less than ½ inch by ten-thousandths of an inch.

Cat. No.	Description	Price Each
6	Micrometer Caliper	$14.75
6RS	Micrometer Caliper with Ratchet Stop	15.50
	Case	1.80

Packed one in a box.

STAINLESS STEEL RULE No. 350

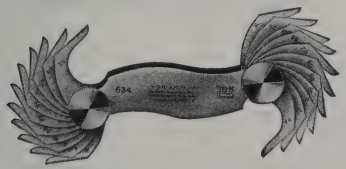


Tempered

A rust resisting stainless steel rule for the electrician. Clean cut graduations in 8th, 16ths, 32nds and 64ths.

Cat. No.	Size In.	Width In.	Price Each
350	6	11/16	$2.00
350	12	31/32	4.00

SCREW PITCH GAGE No. 634



Designed especially to meet the requirements of electricians and others using screws with V threads.

This Gage contains 22 blades.

Cat. No.	Description	Price Each
634	22 Pitches	$2.20

BROWN & SHARPE SMALL TOOLS
SPEED INDICATOR No. 748

This speed indicator accurately determines the revolutions of shafting, wheels and spindles, in either direction and measures both high and low speeds equally well.

Cat. No.	Description	Price Each
748	Speed Indicator	$10.90
748	In Case	13.20
	Extra Points	.25

AMERICAN STANDARD WIRE GAGES No. 688

Decimal equivalents (approximate) stamped on the reverse side.

Cat. No.	Capacity	Price Each
688	0 to 36	$4.50
688	5 to 36	-------

SPRING DIVIDERS No. 810

Cat. No.	Size Inches	Price with Solid Nut
810	4	$2.10
810	5	2.20
810	6	2.40
810	8	3.10

OUTSIDE SPRING CALIPERS
No. 811

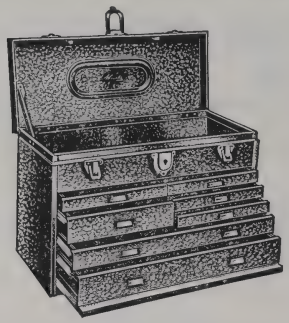
Cat. No.	Size Inches	Price with Solid Nut
811	4	$2.10
811	6	2.40
811	8	2.75

INSIDE SPRING CALIPERS
No. 812

Cat. No.	Size Inches	Price with Solid Nut
812	4	$2.10
812	6	2.40
812	8	2.75

KENNEDY ALL-STEEL TOOL KITS

NO. 520 MACHINISTS' CASE



Drawer slides work easily and are very strong. Front panel, which slides under drawers when box is open, fits against drawers, locking them with lid lock. Rust resisting fittings, felt-lined drawers. Seal brown ripple baked enamel finish. Adjustable partition in each drawer, except bottom one.

Inside Dimensions in Inches

Till in top	20 x8⅝x3¾
Four drawers	8⅝x7½x1
One drawer	18¼x7½x1½
One drawer	8⅝x7½x2
One drawer	18¼x7½x2½

Cat. No.	Dimens., Inches Long	Wide	High	Net Wt.Lbs.	Shpg. Wt.Lbs.	Price Each
520	20	8½	13	27¾	35	**$25.00**

NO. 620 MACHINISTS' CASE

Drawers slide easily on super-compound slides that stop only after they are extended, giving a clear view of the contents. Front panel, which slides under drawers when box is open, fits against drawers locking them with lid lock. Rust resisting fittings; dark green ripple baked enamel finish; soft felt-like finish inside of drawers.

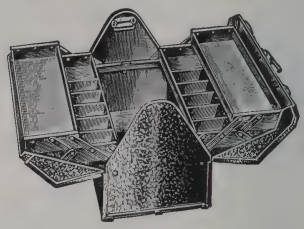
Inside Dimensions in Inches

Till in top	20 x8⅝x3¼
Top drawer (divided in 2 sections)	18¼x7½x1⅛
Middle drawer	18¼x7½x2⅜
Lowest drawer	18¼x7½x3¼

Cat. No.	Dimens., Inches Long	Wide	High	Net Wt.Lbs.	Shpg. Wt.Lbs.	Price Each
620	20	8½	13	26	33	**$20.00**

KENNEDY ALL-STEEL TOOL KITS

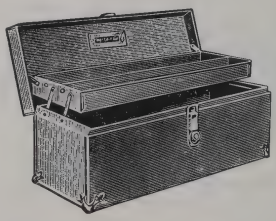
GENERAL MECHANIC'S KIT



Three skid rails are welded to the bottom of the box for added strength and protection. Finished in seal brown ripple baked enamel outside and dark green smooth baked enamel interior. Leather handle, fastened with draw bolt hasp and staple.

Cat. No.	Dimens., Inches Long	Wide	High	Net Wt.Lbs.	Shpg. Wt.Lbs.	Price Each
1018	18	10	12½	17½	20	**$12.50**

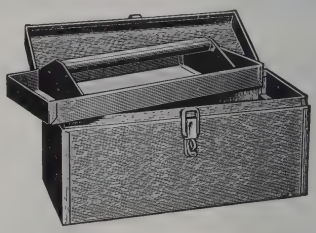
BIGHORN LINE TOOL BOXES



Double seam ends, full length piano hinge, and corner irons feature this solidly constructed box. Marproof green, baked ripple enamel finish. CS16 and CS19 have cantilever swing tray. Fastened with draw bolt hasp and staple.

Cat. No.	Dimens., Inches Long	Wide	High	Carton	Shpg. Wt.Lbs.	Price Each
CS16	16	7	7	6	42	**$4.90**
CS19	19	7	7	6	47	**5.10**

K-20 TOOL KIT



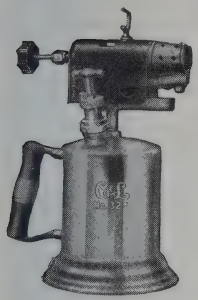
A convenient all-purpose tool kit with divided carrying tray. Equally handy for shop or home use. Tray has three separate compartments for tools or small parts and is divided as follows: one compartment 13⅞x7⅞ inches; 2 compartments 2¾x7⅞ inches. Tray is 19⅜x7⅞x1¾ inches high. A piano-type hinge extends the full length of the lid and the box is locked by means of a draw bolt hasp and staple. Dark green ripple baked enamel finish.

Cat. No.	Dimens., Inches Long	Wide	High	Carton	Shpg. Wt.Lbs.	Price Each
K-20	20	8½	9½	4	57	**$7.50**

CLAYTON & LAMBERT TORCHES

All C & L Torches Have Polished Brass Tanks

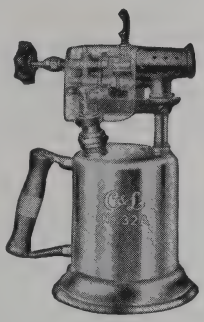
No. 327 — HEAVY DUTY TORCH



For extra heavy work. Powerful burner produces a steady, strong blue flame 10 inches in length. Flame can be regulated for ordinary work. Removable jet block and detachable cleaner pin. Blunt control valve makes it impossible to enlarge orifice. Has full skirted heavy windshield. Brass tank with bottom filler plug. Automatic pump. Regularly supplied for burning gasoline.

Cat. No.	Capacity Quarts	Shpg. Wt. Lbs.	Price Each
327	1	5¾	**$19.70**

No. 32A — MECHANIC'S STANDARD TORCH



Dependable performance either indoors or outdoors. Generates a large, powerful, steady blue flame which can be reduced to a small flame for light work. Burner is made with removable jet block and cleaner pin. Blunt control valve makes it impossible to enlarge orifice. Burner protected with full skirted heavy windshield. Heavy gauge brass tank with concave bottom which serves as a funnel in filling. Automatic pump. Regularly supplied for burning gasoline.

No. 238 is similar to No. 32A but smaller.

Cat. No.	Cap. Qts.	Shpg. Wt. Lbs.	Price Each	Cat. No.	Cap. Pints	Shpg. Wt. Lbs.	Price Each
32A	1	5	**$18.30**	**238**	1	4¼	**$13.60**

No. 158A GASOLINE TORCH

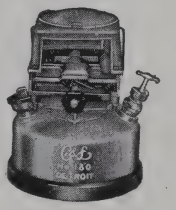
For gasoline only. The burner is made with a back-flow super-heating vein which generates an intensely hot, well controlled, blue flame. Improved control needle protects orifice against injury. Equipped with windshield. Concave bottom makes it easy to fill. Heavy gauge polished brass tank. Automatic pump.

Cat. No.	Capacity Quarts	Shpg. Wt. Lbs.	Price Each
158A	1	4¾	**$12.70**

CLAYTON & LAMBERT FIRE POTS

SILENT FIRE POT

For Gasoline



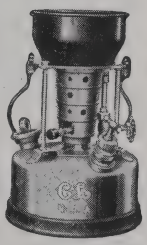
No. 180 — For sheet metal workers, roofers, tinners and general utility. Will heat a pair of 12-pound soldering coppers and a pot of metal at the same time.

The horse-shoe burner is simple and rugged, and directs twin blue flames against coppers and bottom of metal pot.

The control valve regulates the flame so that coppers or molten metal can be held at the desired temperature. Cast iron hood holds the heat. The generator has a removable jet block and a replaceable cleaner pin.

Cat. No.	Capacity Gallons	Shipping Wt. Lbs.	Price Each
180	1	25	**$33.70**

COILTROL FIRE POTS



This fire pot is identical in all respects with the well known No. 22A with the exception of the coil unit. The No. 44A coil unit has a flame control device which allows the flame to be varied in size and volume. A pot of metal can be rapidly melted and then, by an adjustment of the flame control valve, be held at the desired temperature until the melted metal is needed. This results in a double saving. Gasoline is conserved and the oxidation of the metal and loss through the making of dross is much reduced.

Regularly supplied for burning gasoline. Kerosene may be burned by changing the burner jet. Specify when ordering if kerosene is to be used.

Cat. No.	Capacity Gallons	Shipping Wt. Lbs.	Price Each
44A	1	14	**$23.60**

No. 44-88 HEAVY DUTY FIRE POT

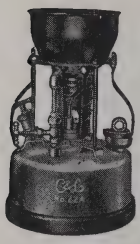
Produces a large, powerful blast flame which may be regulated. It has a quick detachable coil burner unit fitted with a flame control valve. Quickly melts lead, solder, paraffin or insulating compound which materials may be held at a desired temperature by adjustment of the flame control device. Large top plate and tapered shield will accommodate an 8-inch metal pot. Substantial construction throughout.

Regularly supplied for burning gasoline. Kerosene may be used by changing burner jet.

Cat. No.	Capacity Gallon	Shpg. Wt. Lbs.	Each Each
44-88	1	20	**$28.50**

CLAYTON & LAMBERT FIRE POTS

GASOLINE COIL FIRE POTS



No. 22A is easy to start and simple to operate. Burns low gravity gasoline perfectly in any kind of weather. Produces very hot blast flame of large volume; it is efficient, fast and economical for melting solder and babbit in metal pots. A powerful pump produces air pressure quickly. The quick detachable coil unit may be replaced in 45 seconds. Simply unscrew the coupling nut, lift through the hinged door of the coil cup then insert new unit. All fittings are interlocking being forced in under hydraulic pressure. Ruggedly built and dependable in operation. Regularly supplied for burning gasoline. Kerosene may be burned by changing the burner jet. Specify when ordering if kerosene is to be used.

Cat. No.	Capacity Gallons	Shipping Wt. Lbs.	Price Each
22A	1	14	$22.60

MELTING POTS AND LADLES

CAST IRON MELTING POT

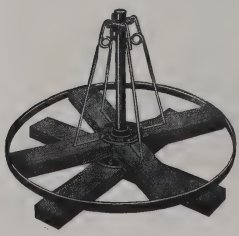
These melting pots are of the deep pattern and will fit any make of fire pot or furnace. The 6-inch pot is the right size to fit the regular shield of coil fire pots. The 7-inch pot fits the extra large shield.

Size	5-Inch	6-Inch	7-Inch
Price.....each	$1.65	$2.00	$5.00

WROUGHT STEEL MELTING LADLES

Size Inch	Wt. Lbs. Each	Price Each	Size Inch	Wt. Lbs. Each	Price Each
2½	½	$1.00	4	1¼	$1.60
3	¾	1.20	5	2½	2.10
3½	1	1.40	6	3	2.40

MINNEAPOLIS PAYOUT REEL

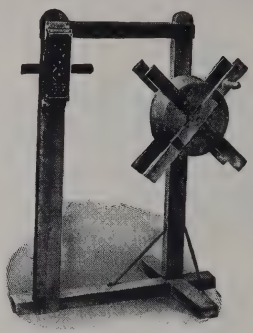


SELF-ADJUSTING

Adjustable to coils from lamp cord to No. 0. Size, 24 inches in diameter, 21 inches high; weight, 20 pounds.

Price, No. P1.....$17.65

MINNEAPOLIS REEL AND METER



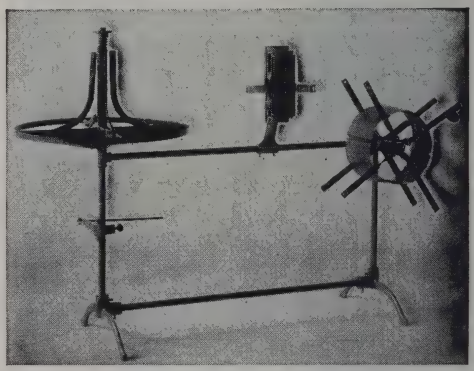
For measuring various sizes of wire, cordage, etc. to ¾-inch. Wire passes between two self-adjusting rollers and will be measured accurately whether large or small size. Reel is provided with removable cross bars and the drum with grooves so the coil can be bound with tie wires and removed in compact form.

Meter can also be furnished without reel for fastening to side of counter, wall or post and on the counter.

Cable Meter on base will measure small sizes of wires as well as large cable, flexible conduit, rope, etc., to 1½ inches.

	Price Each		Price Each
Reel and Meter	$48.00	Counter Meter	$27.00
Meter only	25.50	Cable Meter	38.50

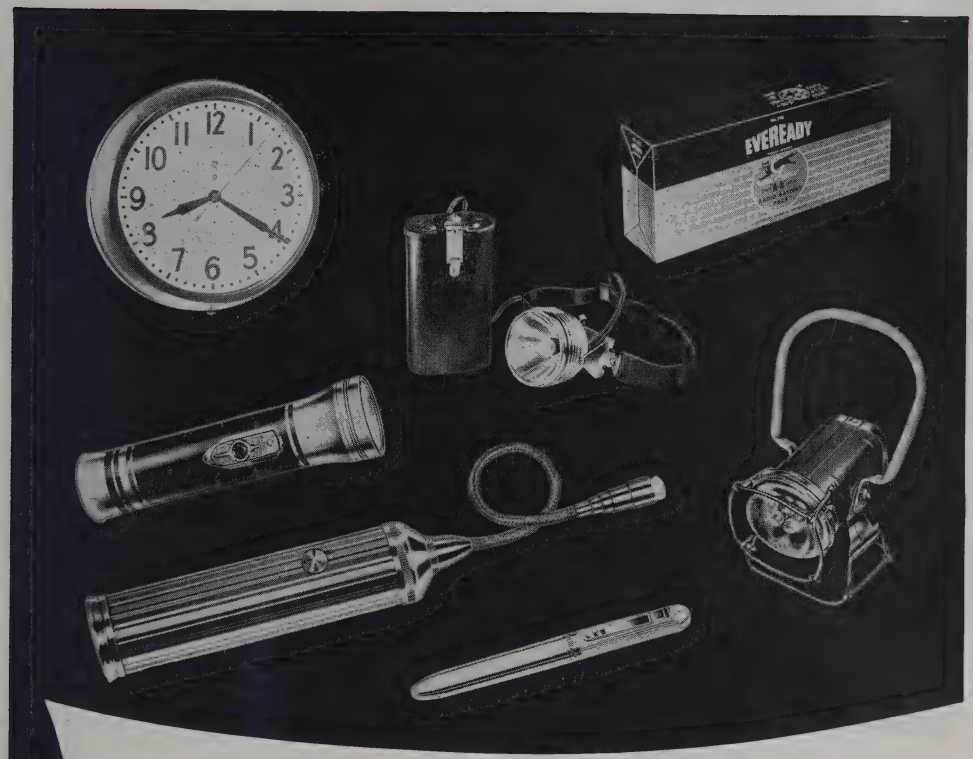
MINNEAPOLIS PAYOUT AND TAKE-UP WIRE MEASURING MACHINE



The FS2RA is a combination payout reel and take-up reel mounted on the one stand, made of all metal and very rigid. A convenient outfit for unreeling, measuring and re-reeling wire.

The payout reel is adjustable, will take small coil of lamp cord and wires up to the large coils of stranded double braid wire. A spool holding attachment, for small additional price, measures material off spools. Capacity of reels approximately 2,000 feet of No. 14 S.B., other sizes in proportion.

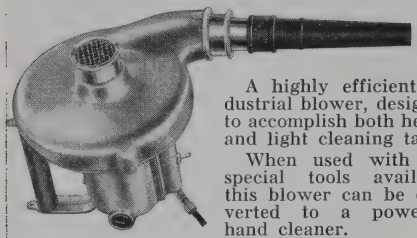
Cat. No.	Description	List Price
FS2RA	Complete without spool holder	$98.50
FS2R	Reels only without meter	73.00
A	Meter only	25.50
	Spool holder only	2.50



miscellaneous

GENERAL ELECTRIC INDUSTRIAL CLEANERS

HEAVY-DUTY HAND CLEANER MODEL 150



A highly efficient industrial blower, designed to accomplish both heavy and light cleaning tasks.

When used with the special tools available this blower can be converted to a powerful hand cleaner.

Powered by a 1 hp, G-E Heavy-duty, universal type motor the model 150 blower will get that ground-in grit, dirt, and dust from those hard-to-get-at-places easily and thoroughly.

An ideal blower for tasks where portability and powerful air delivery are essential. Weighs only 16 pounds. Gives average maximum vacuum of 40.5 inches. Delivers 220 cu ft of air per minute at a pressure of 28.6 inches.

Specifications

Motor—G-E Heavy-duty, 1 hp universal type, 115 V a-c/d-c
Bearings—Precision ball bearings, packed in lubricant
Vacuum—Average maximum vacuum 40.5 in., Volume 220 cu ft, air per min.
Cord—20 ft, three wire, rubber-covered, with grounding terminal
Weight—16 pounds

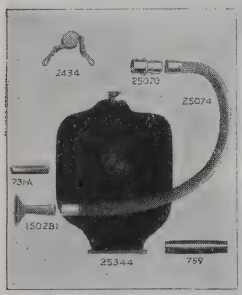
STANDARD ATTACHMENTS MODEL 150

Neoprene Rubber Blower Nozzle

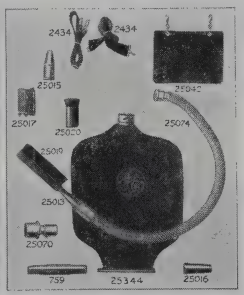
Blower Nozzle Coupling and Adapter

Screen Guard for air intake

HAND TOOLS



TELEPHONE AND RADIO TOOLS



The attachments illustrated above may be purchased at a slight additional cost to convert the Model 150 Blower to a portable hand cleaner, or to a cleaner especially designed for cleaning telephone switchboards and radio broadcasting equipment.

25344—Dirt Bag
2434—Carrying, shoulder straps
25074—Lightweight, braid-covered rubber hose, ¼" dia
25070—Hose coupling
759—Tool adapter, non-conducting
150281—Utility nozzle
731A—Slide-on brush for utility nozzle
25013—Brush adapter
25016—Adapter sleeve
25015—Short, rubber blower nozzle
25017—Military brush, non-conducting
25019—Straight brush, non-conducting
25020—Small round brush, non-conducting

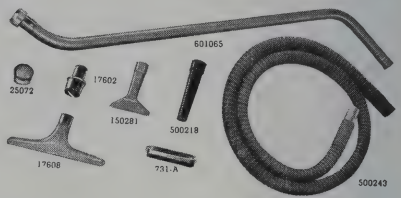
HEAVY-DUTY CLEANER MODEL AVI-G908

This General Electric model cleaner fills the ordinary requirements for maintenance cleaning of office buildings, commercial establishments, theatres—wherever the maximum of portability is required. The motor unit can be used separately—easily and quickly converted to a powerful blower by removing the filter bag and substituting the blower coupling and guard, provided as standard equipment. Low investment cost for wet and dry pickup. Economical to operate. Durable for years and years of efficient cleaning service.

Specifications

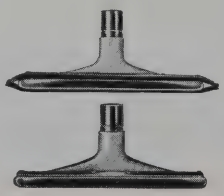
Motor—1 hp, 115 V a-c/d-c
Vacuum—41 in. average maximum water lift
Cord—22 ft, 3 conductor, rubber-covered, with grounding wire
Casters—soft rubber tread, top swivel bearing
Container—1.04 bu dry dirt, 10 gals liquid
Filter—specially woven filter for maximum cleaning efficiency
Weight—43 pounds, shipping weight 74 pounds
Dimensions—32¼ in. high, 21¼ in. wide, 17 in. diameter tank
Finish—smooth, easily cleaned, metallic grey
Approved—Underwriters' Laboratories, Inc.

STANDARD ATTACHMENTS MODEL AVI-G908



500243—Rubber hose and adapter assembly, hose 10 ft long, 1½ in. dia
601065—Floor rod, with swivel tool connector for all floor tools
150281—Utility nozzle, 5 in. wide, for general upholstery cleaning
731A—Slide-on brush, used with nozzle where brushing is needed
17608—Floor nozzle, 12 in. wide, for general floor cleaning
500218—Rubber blower and suction tool, oil resistant neoprene
17602—Blower and suction coupling, to connect tools to motor unit
25072—Screen guard, used to cover air inlet when used as a blower

ADDITIONAL TOOLS FOR WET PICKUP



100142—Rubber blade squeege designed for wet pickup on bare floors—eliminates old-fashioned mop—and dries floors while it picks up suds.

170140—Metal squeege designed for pickup of suds from shampooed rugs, pulls the soapy, dirt loaded shampoo from the rug while powerful air movement helps dryclean rug pile.

GENERAL ELECTRIC INDUSTRIAL CLEANERS

HEAVY-DUTY CLEANER MODEL AVI-901

A heavy-duty cleaner designed for the general maintenance cleaning problems of both industrial and commercial establishments.

Use it as a dry pick-up cleaner for all of your industrial cleaning tasks, or as a wet pickup for removing soapy water from scrubbed floors or shampooed rugs.

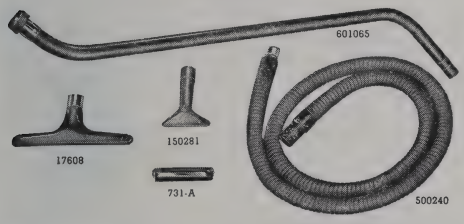
Powered by a 1 hp G-E motor, the model AVI-901 will get even that ground-in dirt and dust out with ease. An economical protection of your plant investment.

Soft rubber tread, ball bearing swivel casters permit easy handling and portability. Large filtering area and average maximum water lift of 58 in. Durable grey finish with chrome trim.

Specifications

Motor—G-E, 1 hp, a-c/d-c, ball bearings packed in lubricant
Vacuum—58 in. average maximum water lift
Cord—35 ft, heavy-duty, all rubber, with molded plug
Casters—Soft rubber tread—ball bearing swivel
Container—13 gals liquid capacity 1¼ bu dry
Filtering Area—1060 sq inches
Protector Fuse—Prevents liquids from damaging motor
Dimensions—Height 35¼ in., diameter 20½ in.
Weight—68 pounds
Finish—Durable, baked-on metallic grey, polished chrome trim

STANDARD ATTACHMENTS FOR MODEL AVI-901



500240—Rubber-lined hose and adapter, 10-ft. long, wire enforced
601065—Steel floor rod, connects all floor tools to rubber hose
17608—Aluminum floor nozzle, 12 inches wide, serrated lips
150281—Utility tool, 5 inches wide
731A—Slide-on brush for utility nozzle

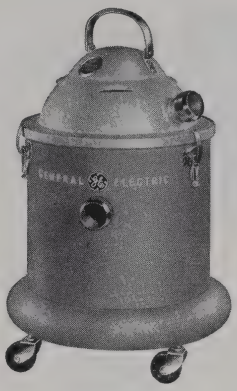
WET PICKUP TOOLS

400142—Rubber-bladed Squeege—nozzle with soft, flexible rubber blades for picking up soapy water and other liquids from bare floors

170140—Steel-bladed Squeege—for picking up soapy water from shampooed rugs

Suds Shield—Used in place of cloth filter bag when using this model for wet pickup

HEAVY-DUTY CLEANER MODEL AVI-909



The model AVI-909 is designed to fill the requirements of modern maintenance cleaning where speed, thoroughness, and portability are essential.

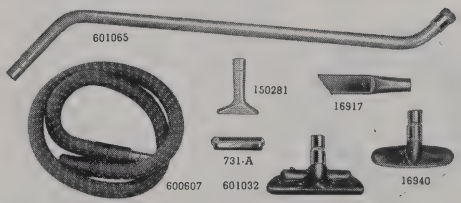
It is powered by a G-E Universal-type, a-c/d-c, 115 volt, motor to insure plenty of suction or blowing force for all-purpose cleaning. A separate cooling system permits continuous operation, and motor is sealed to protect it from water damage when cleaner is used for wet pickup.

A complete set of wet pickup tools and attachments easily convert the model AVI-909 to a wet pickup cleaner, for removing soapy water from scrubbed floor and shampooed rugs.

Specifications

Motor—G-E Universal-type, a-c/d-c, 115 volts
Bearings—Precision ball type, sealed in lubricant
Vacuum—42 in. average maximum water lift
Dimensions—21¼ in. high, 14¼ in. diameter
Weight—32 pounds
Tank Capacity—Dry dirt 1¾ pecks, 3¾ gals liquid
Protective Rubber Bumper—Protects walls and furniture
Cord—20 ft, rubber-covered, with plastic plug
Casters—Rubber tread, top swivel bearing for easy rolling
Finish—Two-tone grey, chrome trim
Approved—Underwriters' Laboratories, Inc.

STANDARD ATTACHMENTS MODEL AVI-909



601065—Steel floor rod, connects all floor tools to hose
600607—Braided rubber hose with adapter, 1½ in. inside dia. 8 ft. long, wire reinforced, molded rubber ends
601032—Floor and rug nozzle—strong durable plastic with adjustable brush
16940—Bare floor and wall brush—non-marking rubber with replaceable brush bristle
16917—Crevice tool—for cleaning radiators, crevices, etc.
150281—Utility and upholstery nozzle
731-A—Slide-on brush, used with nozzle where brushing is needed

WET PICKUP TOOLS

Available as a complete wet pickup kit at a slight additional cost.

Wet Pickup Filter Bag—prevents solid objects from entering fan chamber; loosely woven for efficient cleaner performance
Rubber-bladed Squeege—for fast pickup of soapy water and other liquids from bare floors
Steel-bladed Squeege—for picking up soapy liquid from shampooed rugs

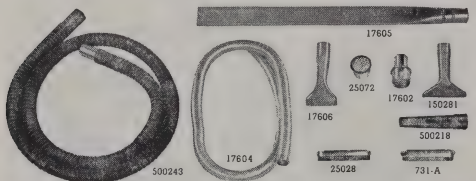
GENERAL ELECTRIC FURNACE AND BOILER CLEANER—Model AVI-F908

This General Electric Furnace and Boiler Cleaner is ideally suited, not only to the needs of those who handle the maintenance of their own heating equipment, but also those operating a furnace-cleaning business for profit. Motor unit of this equipment is portable to provide a powerful hand blower or cleaner. Powerful 1 hp G-E Universal-type motor provides plenty of suction to get all of that caked-on ash, scale and soot. Portable to make it easy to take to the job—one man can carry it and handle its operation. Mounted on soft rubber tread, top swivel bearing casters to facilitate movement.

Specifications

Motor—1 hp, 115 volt, a-c/d-c, ball bearing type
Vacuum—41 in. average max water lift (115 V)
Cord—22 ft, heavy-duty, rubber covered, with protective grounding wire
Container—heavy sheet steel, capacity 1.04 bu
Filter—specially woven to permit a minimum of back pressure
Weight—43 pounds
Dimensions—32¼ in. high, 21¼ in. wide, 17 in. dia tank
Finish—smooth, easily cleaned metallic grey finish
Approved—Underwriters' Laboratories, Inc

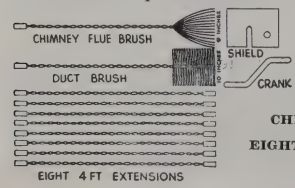
STANDARD ATTACHMENTS MODEL AVI-F908



500243—Rubber hose and adapter — 10 ft long, 1½ in. inside dia
17604—Metal hose — 6 ft long, 1½ in. inside dia
150281—Utility nozzle — 5 in. wide
731A—Slide-on brush, for use with 150281 nozzle
25028—Wire brush, for use with 150281 nozzle
500218—Rubber blower and suction tool
17602—Hose and blower tool coupling — used to connect hose and tools when motor unit is used separately as a blower or hand cleaner
25072—Screen guard — to cover air inlet of motor
17605—Straight flat tube—28 in. long for cleaning and scraping narrow openings
17606—Scraper nozzle — 3½ in. wide for scraping soot and scale from boiler and grates

CHIMNEY CLEANING EQUIPMENT

All the tools necessary for complete and thorough chimney cleaning. Ideal for efficient plant maintenance or for professional chimney plant maintenance or for professional chimney cleaners. Designed for use with model AVI-F908 cleaner.

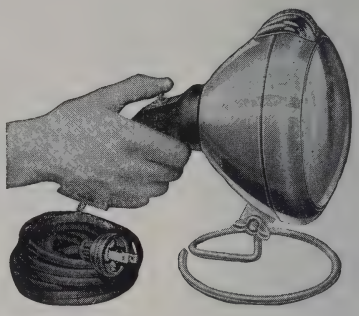


CHIMNEY FLUE BRUSH
DUCT BRUSH
EIGHT 4-FT. EXTENSIONS
SHIELD
CRANK

UNITY PLUG-IN SEARCHLIGHT

POWERFUL PORTABLE SEARCH-LIGHT

Made for House Current — 100,000 Candlepower



The most powerful portable search-light made. Operates on less than 1c per hour. The only portable search-light that offers the great power and distance of 110-volt house current. Maximum light for any purpose — near or far — indoors or outdoors — in the home, yard or farm.

The bulb is a large size, clear lens, G-E Sealed Beam spotlight bulb, made for house current. Also made with bulbs for 6, 12 and 32 volts and plugs for marine and auto use.

No. **740** Plug-in HOME Search-Light,.... 110 Volt

For Auto use in Cigar Lighter

No. **741** Plug-in Auto Search-Light,..... 6 Volt
No. **742** Plug-in Auto Search-Light,..... 12 Volt

For Marine Use

No. **743** Plug-in Marine Search-Light,.... 6 Volt
No. **744** Plug-in Marine Search-Light,.... 12 Volt
No. **745** Plug-in Marine Search-Light,.... 32 Volt

Price, **All Models**.....each **$12.95**

JUSTRITE 4-CELL ELECTRIC HEADLIGHT

Powerful "spot" beam. Headpiece straps around cap. Battery case clips on belt. 2½-inch polished reflector. Uses 4 flashlight cells. With 5-volt bulb. Weight 1 lb.

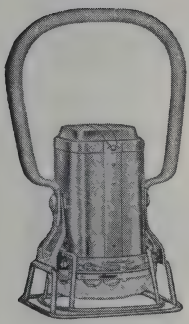
No. **1904** Headlight, less batteries.....each **$3.95**

JUSTRITE FLASHLIGHTS AND LANTERNS

SAFETY SERVICE FLASHLIGHTS

Approved by Underwriters' Laboratories, U. S. Bureau of Mines, Bureau of Marine Inspection. Uses 3 regular flashlight cells. New design — only 5¾ inches high. Stands on base. Has belt clip. Case guaranteed against breakage. 2½-inch polished reflector.

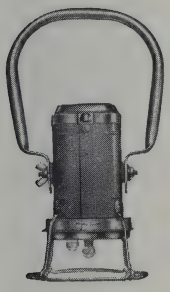
No. **1717S** Safety Flashlight, less batteries .....each **$4.00**



ALL-PURPOSE SAFETY HAND LANTERN

Approved by Underwriters', Bureau of Mines and Bureau of Marine Inspection. Uses standard 6-volt battery. Two bulbs—either gives both "spot" and diffused light. Tilts on base to any angle. Wide movable handle. 3½-inch chrome reflector and glass globe. Wt. 2½ lbs.

No. **2144S** Safety Lantern, less battery.....each **$7.80**



RAILROAD TRAINMAN'S LANTERNS

Uses standard 6-volt battery and bulbs. Powerful "spot" beam from one bulb. Other bulb extended for ordinary signals. Re-enforced aluminum tubing handle. Welded steel guard. 3½-inch chrome reflector. Wt. 2 lbs. Space for 2 spare bulbs.

No. **2140** Trainman's Lantern, less bulbs — less battery ....each **$4.00**

No. **2140W** same as above, but with special "signal" glass globe over reflector. Less bulbs, less battery. List Price.....each **$5.00**

FLAGMAN'S RED LANTERN

A warning beam — visible in all directions. Red fresnel globe covers bulb and emergency bulb mounted in lantern. Welded wide-base guard. Movable aluminum handle. Use standard lantern battery. Space for two spare bulbs. Wt. 3½ lbs.

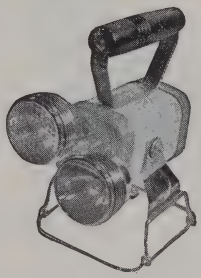
No. **2172-JR** Red Flagman's Lantern, less battery, less bulbs .....each **$6.80**

YELLOW-FLASH HEADLIGHT

For all purposes requiring both hands free. Ideal for camp chores, night loading, farm or guard duty. Sponge rubber headpad and strong belt loop on side to hold case in position on ordinary belt. Switch on handy location on headpiece. Weatherproof plastic connecting cord. Furnished with one bulb (for 8-cell operation).

No. **1958** Yellow-Flash Headlight, less batteries .....each **$4.95**

INSPECTOR'S LANTERNS



Gives wide spread-beam light from Justrite Honeycomb Lens. A separate light housing gives "spot" beam. Standard lantern battery and bulbs. Tilts on base to any angle. Two 2½-inch reflectors — interchangeable lenses — separate individual switches.

No. **2121** "Double-Header Type, less battery ..... each **$7.20**

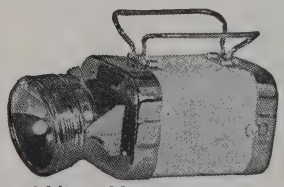
No. **2111.** Same as above, but has only one light housing — using "Honeycomb" spread-beam lens. Wt. 2 lbs. Less battery.....each **$6.20**

YELLOW-FLASH LANTERN

Has exclusive twin bulb reflector design with two bulbs mounted on a sliding plate. Either bulb gives both a strong spot beam plus short range diffused light. Bulbs interchanged instantly by moving the switch. Has large bail for carrying or hanging, or will stand on guard base with light directed at any angle. Furnished with two bulbs (for 8-cell operation).

No. **2198** Yellow-Flash Lantern, less batteries .....each **$4.45**

YELLOW-FLASH FLASHLIGHT



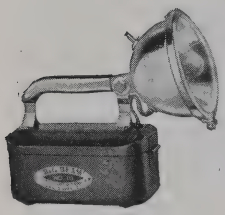
Wherever a good flashlight is needed — for hunters, peace officers, fishermen, householders, inspectors, farmers, campers, guards, watchmen — convenient to carry, small enough to fit tool kit, tackle box, or glove compartment — over-all dimensions 8x3x3 inches.

Has 2½-inch polished reflector. Furnished with one bulb (for 8-cell operation).

No. **2108** Yellow-Flash Flashlight, less batteries.....each **$3.95**

U-C-LITE BIG BEAM PORTABLE ELECTRIC HAND LAMPS

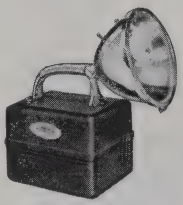
No. 111—1000-FOOT BEAM HAND LAMP



For unlimited sports, utility and emergency uses. Many uses have been found for this new, low-priced, quality-built, distinctively styled BIG BEAM. Smartest and handiest portable light at a price that fits any pocketbook. Main bulb only. Uses one standard lantern battery.

Price, No. **111** Big Beam w/o battery....each **$6.95**

No. 700-A—2000-FOOT BEAM HAND LAMP

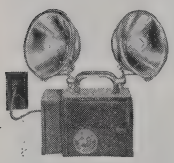


Powerful heavy-duty model in wide use among industrial plants, railroads, contractors, public utilities and electricians.

No. 700, black head and handle, main bulb only. Uses four No. 6 dry cell batteries.

Cat. No.	Description	Price Each
700A	Big Beam, w/o batteries	**$19.25**
700	Big Beam, w/o batteries	**17.00**

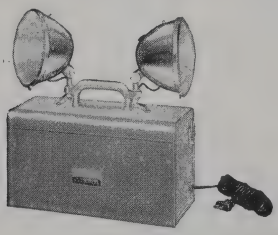
No. 802 AUXILIARY LIGHTING AND EMERGENCY EQUIPMENT



Provides ample instant lighting when current fails. Many communities require auxiliary emergency lighting of this type. Simple to install—just plug extension cord connected to lamp into electrical outlet. Available in single head model No. 801.

Cat. No.	Description	Price Each
802	Big Beam, w/o batteries	**$38.75**
801	Big Beam, w/o batteries	**31.50**

No. 2AD-S AUTOMATIC EMERGENCY LIGHTING UNIT



Specially developed to meet law requirements of various communities for emergency lighting in theatres, hospitals and public places. Two floodlight heads provide a greater amount of light with longer burning hours, over a wider area, than the No. 801/2 lamps. Beautifully finished in soft green hammerloid. Approved by UL. Uses standard 9-volt dry cell battery.

Price, No. **2AD-S** Big Beam, w/o battery....**$55.00**

U-C-LITE BIG BEAM PORTABLE ELECTRIC HAND LAMPS

No. 211 1500-FOOT BEAM HAND LAMP

Popular model — ideal for sportsmen, fishermen, truckers, farmers, home owners, watchmen. Light weight and easy to carry. Simple focus adjustment gives choice of powerful ¼-mile beam or spread lighting. No. 212. Same as above, but with Red flashing auxiliary bulb.

Holds two lantern batteries, operates on one.

Cat. No.	Description	Price Each
211	Big Beam, w/o batteries	**$12.50**
212	Big Beam, w/o batteries	**17.50**

No. 400F FLASHING OR STEADY FLARE

A brilliant flare. Meets ICC Specifications. Use as road flare. For truckers, motorists, farmers and railroads. Remove red fresnel lens and No. 400F becomes handy portable light. Two bulbs give added protection. Holds 2 lantern batteries—operates on one. Clear or colored lens available. Approved by UL. Metal container to hold 3 flares available.

Price, No. **400F** Big Beam, w/o batteries **$11.50**

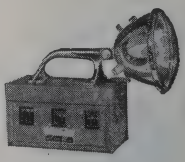
No. 1000 2500-FOOT BEAM HAND LAMP

King of dry cell lamps. Brilliant ½-mile beam makes this lamp the choice of industrial users, police and fire departments, service garages, railroads and public utilities. Unexcelled and dependable for all night emergency jobs. Built for years of service.

Uses 1 standard 9-volt dry cell battery.

Price, No. **1000** Big Beam, w/o battery.....**$23.00**

No. 311 2500-FOOT RECHARGEABLE HAND LAMP



Can be easily recharged by using separate battery charger. First cost is only cost. Ideal for long, sustained use. For all industrial purposes, public utilities, railroads, police and fire departments, hospitals, etc.

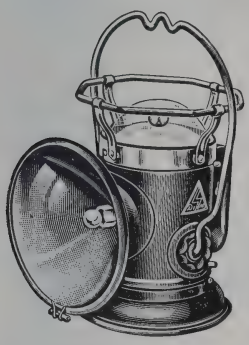
100 percent Spillproof Battery.

No. 312. Same as above, except with 4-volt wet battery with built-in charger.

Cat. No.	Description	Price Each
311	Big Beam, complete with battery	**$45.00**
312	Big Beam, complete with battery and charger	**49.50**

DELTA ELECTRIC LANTERNS

POWERLITE 2-REFLECTOR ELECTRIC LANTERN



Piercing 800-foot spot beam from front, flood-light from top. Two lights under instant finger tip control from same switch.

Operates on standard 6-volt lantern battery, 80 to 100 hours battery life. Rugged, beautiful, efficient.

Packed in individual corrugated cartons; wt. each 2½ pounds.

Priced complete less batteries.

Universal, for every use. Hangs by bail, hooks over nail in wall. Bail reverses for flood light down. Detachable guard.

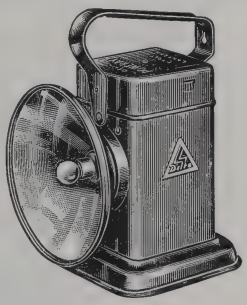
Price, Model **A1530** With Lens Guard....each **$4.95**

ACCESSORIES FOR POWERLITE LANTERN

Cat. No.	Description	Price Each
A-1042	Lens Guard	**$0.60**
A-1050	Spring Bracket Carrier	**.50**
A-1518	Rubber Covered Bail	**.75**
P-41074	Red Top Lens	**.35**

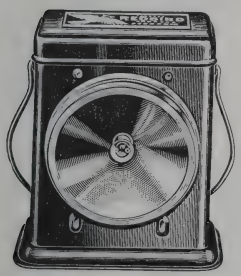
POWERAY 6-VOLT ELECTRIC HAND LANTERN

Operates on standard 6-volt lantern battery. 800-foot spot beam. Sixty-five hours continuous burning life from one fresh battery; 80 to 100 hours intermittent use. Has positive switch. Glass Lens. Finished in baked enamel, zinc plated trimmings. Large 4½-inch highly polished reflector. Packed in individual cartons, 12 to shipping case; weight 14 pounds less batteries.



Price, No. **A1800** less Batteries.....each **$2.70**

DELTA REDBIRD ELECTRIC LANTERN

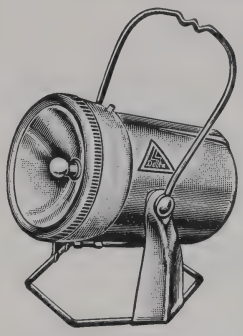


800-foot piercing beam of brilliant diffused light. Operates on 2 No. 6 dry cells. Finished in red with chrome trimmings. Packed in individual cartons, 12 to standard shipping case; weight 24 lbs. Replacement lens P-41027; bulb, Mazda No. 248.

Price, Model **A1095**, less Batteries.....each **$2.95**

DELTA ELECTRIC LANTERNS

DELTA REDDYlite LANTERN



Model A2103

Suspended on an attractive metal base, highly polished. The Reddylite case is of molded red plastic of unusual strength and durability, will not dent and its smooth surface is non-tranishing and rust-proof.

Operates on one standard 6-volt lantern battery. 80 to 100 hours of light at a cost of less than ½c per hour. A 3½-inch bright polished reflector, a shrunken parabola type gives the maximum of efficiency without critical focus or bulb adjustment.

The swivel base on the Reddylite lantern affords 360 degrees of positive adjustment for light where wanted. Also equipped with a handy bail for carrying or to hang up. Its powerful spotlight will pick up objects from 500 to 800 feet away. At the same, the brilliant floodlight will brightly illuminate everything close up.

Ideal for sportsmen, householders, mechanics, campers, railroad men, oilfields, watchmen, farmers, firemen, truckmen, plumbers, repairmen, deliverymen, police, motorists, etc.

Uses GE No. 27, 5 volt, 30 amp. bulb.

Packed in individual cartons, 12 to shipping case weighing 21 lbs. less battery.

Price, Model **A2103** Reddylite Lantern, less battery .....each **$3.50**

DELTA POWER-KING 12-VOLT LANTERN

A quarter of a mile beam of light. Overall height 9 inches, width 4½ inches, length 9½ inches. Mottled 2-tone grey finish with chrome head. 4¼-inch silver plated reflector.

Red plastic handle cover. Provision inside case for 2 spare bulbs. One spare furnished free. Operates on 2 standard 6-volt lantern batteries. No wires to connect. Big 4½-inch headlight is instantly adjustable, up or down. Stays put at any angle. Uses GE bulb No. 965—Delta P44085, 9.6 volt, .5 amp. Packed 12 to standard shipping case, weight 35 lbs.

Price, Model **A2250** Power-King, less batteries **$6.50**

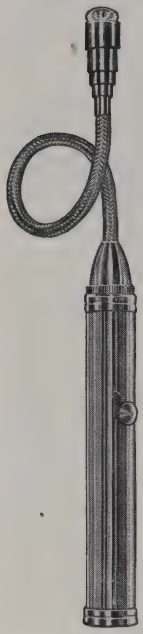
DELTA BUDDY LANTERN

A handy light for every purpose and every member of the family. 4½ inches high (including handle) by 3½ inches. Large 2½-inch highly polished reflector. Operates on two standard 1¼-inch flashlight cells. Takes G-E No. 14 bulb. Positive slide switch. Case is die-cast of rust-proof metal. Baked red enamel finish.

Packed in individual, attractively printed cartons, 12 to standard shipping case weighing 10 lbs.

Price, Model **A1000** Buddy Lantern.....each **$1.89**

ZOO FLEX-LITES
INSPECTION LIGHTS FOR INDUSTRY



JUNIOR DELUXE FLEX-LITE
Model A55

This model with handy sliding switch has attractively ribbed polished auminum case. Its flexible extension bulb retainer can be introduced into heretofore inaccessible areas and provides a powerful searching beam of shadowless light. Uses standard Penlite No. 915 or AA cells.

Lgth. In.	List Price Each WMS	NC	FSA	SS
9	$3.95	$4.95	$5.95	$ 7.95
18	4.95	5.95	6.95	9.95
36	6.95	7.95	8.95	11.95
60	8.95	9.95	10.95	13.95

Special lengths made to order.

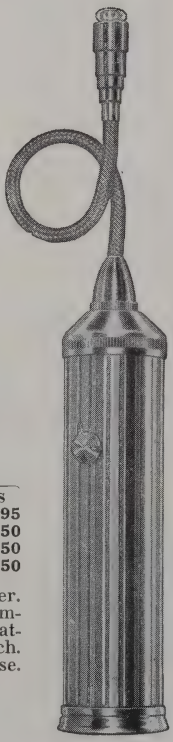
All Models of Lights are complete with bulbs but less batteries. Extra bubs **$0.25** each.

All models packed 12 to case.

MASTER FLEX-LITE
Model A75

The Master model is a heavy-duty companion of Junior DeLuxe Flex-Lite. These unique and different Flex-Lites master any situation wherever light is needed. They have ribbed aluminum barrels for lightness and durability.

The Master is in demand by every mechanic, electrician, repairman, handyman or sportsman. Furnished with thumb slide switch for positive contact. Uses standard regular flashlight No. 950 or D cells. Overall length 16½ inches.



Lgth. In.	List Price Each WMS	NC	FSA	SS
9	$4.95	$ 6.95	$ 7.95	$ 9.95
18	6.95	7.95	8.95	11.50
36	7.95	8.95	10.95	13.50
60	9.95	10.95	11.95	16.50

Special lengths made to order. All Models of Lights are complete with bubs but less batteries. Extra bulbs **$0.25** each. All models packed 12 to case.

ZOO FLEX-LITES
WOVEN METALLIC SHIELDING (WMS)

The Woven Metallic Shielded (code WMS) is the most popular of the 4 types of extension housings as it is most flexible and lowest in cost. It is particularly suitable for use by office machine repairmen, and sevice men in general. Tool and die makers and foundry core setters use this model or the Neoprene model.

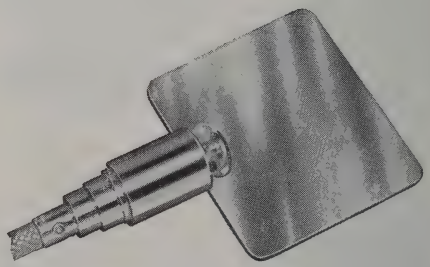
NEOPRENE COVERED MODEL (NC)

The Neoprene Covered model (code NC) is preferred by radio men, electricians, etc., but it also finds many users in other industries because of the rough Neoprene cover which will withstand more abrasion and rougher treatment than the WMS. The NC is equipped with a Lucite cap which protects the bulb and also insulates the bulb socket. The NC has all the flexibility of the WMS and will last longer in rough service.

FLEXIBLE STEEL ARMOR MODEL (FSA)

The Flexible Steel Armor model (code FSA) is used by boiler inspectors, railroad shops, oil field operators and others that have heavy machinery and need equipment that will stand up under rough service. The FSA does not have the flexibility of the WMS or the NC models.

INSPECTION MIRROR



Highly polished Nickel over solid brass. Size 1½x2 inches. Finds many uses, such as inspecting cylinder bores and other inaccessible locations.
Price, Inspection Mirror.....each **$1.50**

MAGNIFYING LENS ASEMBLY
(Not illustrated)

Ideal for inspecting machine parts, fabrics, printing, stamps, painted surfaces, etc. Used by first aid departments in locating foreign matter in the eyes or slivers in the hands. Slips over bulb.
Price, Magnifying Glass Assembly.....each **$4.95**

"EVEREADY" FLASHLIGHTS

No. 1251 2-CELL PREFOCUSED INDUSTRIAL FLASHLIGHT

General purpose type. Uses 2 Eveready No. 950 batteries and Eveready Lamp No. PR 6. Unit package quantity 1.

Price, No. **1251** Flashlight, less batteries.....**$2.75**

No. 1351 3-CELL PREFOCUSED INDUSTRIAL FLASHLIGHT

General purpose type. Uses 3 Eveready No. 950 batteries and Eveready Lamp No. PR 7. Unit package quantity 1.

Price, No. **1351** Flashlight, less batteries.....**$3.15**

No. 7251 2-CELL SQUARE MASTERLITE

A sturdy 2-cell automatic spotlight of unique design. Uses two No. 950 Eveready batteries and Eveready lamp No. PR2.

Price, No. **7251** Masterlite, complete with "Eveready" batteries **$1.95**

2-CELL PREFOCUSED PERMISSIBLE "SAFETY" FLASHLIGHT

Uses 2 Eveready No. 950 batteries and Eveready Lamp No. PR 6. Extra lamp in bottom cap included. Unit package quantity 1.

Price, No. **1259** Flashlight, less batteries.....**$5.00**

3-CELL PREFOCUSED PERMISSIBLE "SAFETY" FLASHLIGHT

Uses 3 Eveready No. 950 batteries and Eveready Lamp No. PR 7. Extra lamp in bottom cap included. Unit package quantity 1.

Price, No. **1359** Flashlight, less batteries.....**$5.20**

No. 2251 2-CELL SPOTLIGHT

2-cell Automatic Spotlight. Black and chromium. Uses 2 No. 950 batteries, Eveready lamp No. PR-2.

Price, No. **2251** Spotlight complete with "Eveready" batteries **$1.45**

"EVEREADY" FLASHLIGHTS

No. 212 PENLITE

Two styles, all-chrome and black and chrome. Black and chrome model includes a translucent hood over lamp providing side illumination. Uses two No. 912 Eveready batteries, and lamp No. 224.

Price, No. **212** Penlite, with batteries.....**$1.00**

2-CELL AUTOMATIC SPOTLIGHT

Seamless brass tube. Chromium finish with rolled-on black decoration. Uses 2 Eveready No. 935 batteries and Eveready lamp No. PR-4. Unit package quantity 1.

Price, No. **2231** Spotlight, less batteries.....**$1.60**

3-CELL AUTOMATIC SPOTLIGHT

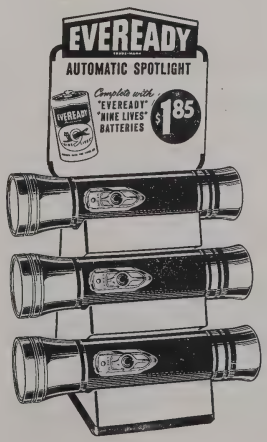
Seamless brass tube. Chromium finish with rolled-on black decoration. Uses 3 Eveready No. 950 batteries and Eveready lamp No. PR-3. Unit package quantity 1.

Price, No. **2351** Spotlight, less batteries.....**$1.95**

5-CELL AUTOMATIC SEARCHLIGHT

Seamless brass with chromium fittings. Durable black, baked-on finish. Equipped with ring hanger. Uses 5 Eveready No. 950 batteries and Eveready lamp No. PR-12. Unit package quantity 1.

Price, No. **2552** Searchlight, less batteries.....**$3.95**



DISPLAY PACKAGE No. 25

Contains 6 No. 2251 2-cell "Eveready" Automatic Spotlights, displays 3. Seamless brass tube, chromium finish with rolled-on black decoration. Uses 2 Eveready No. 950 batteries and Eveready Lamp No. PR2.

DELTA FLASHLIGHTS

DELTA WATERPROOF FLASHLIGHT

Shockproof, waterproof. Will not dent, warp or crack. Has large 1¾ inch diameter reflector that throws a piercing spot beam of light. Operates on two standard 1¼-inch flashlight cells. Convenient metal ring for carrying or wearing on belt. Ring snaps flush with end of flashlight when not in use. Packed in individual cartons, 12 to standard package; weight 5 lbs.

Price, No. **A2068** Flashlight, less batteries....**$1.59**

DELTA LUMINOUS FLASHLIGHT

When exposed to daylight or incandescent light this flashlight will glow in the dark approximately six to eight hours. Has a large 1¾-inch diameter reflector that throws a piercing spot beam of light. Operates on two standard 1¼-inch flashlight cells. Convenient metal ring for carrying or wearing on belt. Ring snaps flush with end of flashlight when not in use. Waterproof. Shockproof.

Price, No. **A-2079** Luminous Flashlight, less batteries .....each **$1.89**

YOUR ELECTRICAL

REQUIREMENTS WILL

ALWAYS RECEIVE

OUR CAREFUL,

PROMPT ATTENTION—

CONTACT OUR

NEAREST OFFICE

"EVEREADY" FLASHLIGHT BATTERIES

915

950

UNIT CELLS

Penlight Cell

Cat. No.	Size Inches	Unit Pkg.	Price Each
912	1¾x0.4	12	$0.10
915	1$\frac{31}{32}$x $\frac{35}{64}$	12	.10

Baby Tubular

935	2 x1$\frac{1}{64}$	12	.125

Regular Tubular

950	2$\frac{31}{64}$x1$\frac{31}{64}$	48	.125

FLAT TYPE

Shot Firer Types

Cat. No.	No. of Cells	Size Inches	Unit Pkg.	Price Each
702	3	2$\frac{7}{16}$x2$\frac{7}{16}$x $\frac{37}{32}$	1	$0.85
704	2	2⅝x1$\frac{1}{32}$x4¼	1	.95

LANTERN BATTERY

Cat. No.	No. of Cells	Size Inches	Price Each
		For Consumer Use	
509	4	2⅝x2⅝x3$\frac{37}{64}$	$0.80
		For Industrial Use	
409	4	2⅝x2⅝x3$\frac{37}{64}$	.80

No. 509

FLASHLIGHT LENS DISPLAY PACKAGE

Assortment No. 102. 40 No. 53419 Spotlight lenses for Nos. 2251, 2671, 2351, 7251 Spotlights. 2 No. 53123 Spotlight lenses for No. 2231 Baby Spotlight. 2 No. 53390 Searchlight lenses for No. 2552 Searchlight. These will cover about 90 per cent of lens replacement calls. Price, Assortment No. 102, **$3.10.**

"EVEREADY" "DRY CELLS

"EVEREADY" No. 6 DRY CELL

The Eveready heavy duty cell is made in No. 6 size round jackets. This dry cell is designed especially for ignition and is particularly desirable for heavy duty.

Equipped with screw terminals unless Fahnestock spring terminals are specified.

Cat. No.	Voltage	Diam. In.	Hght. In.	Price Each
6	1½	2⅝	6⅝	$0.80

Standard package, 12. Weight, standard package, 27 pounds.

"EVEREADY" DRY CELLS

"EVEREADY" "COLUMBIA" GRAY LABEL LONG LIFE TELEPHONE CELL

This dry cell is the original telephone cell greatly improved and is built especially for telephone use. It delivers long service life with uniformity and dependability in the highest degree.

Equipped with Fahnestock spring terminals unless screw terminals are specified.

Cat. No.	Voltage	Diam. In.	Height In.	Price Each
6	1½	2⅝	6⅝	**$0.75**

Standard package, 12. Weight, standard package, 26 pounds.

"EVEREADY" BLASTING BATTERY

No. 708, 22½-volt, 10-shot blasting unit. Length 2½ inches; width 3 inches; height 4½ inches.

Weight, 1½ pounds.

Price, No. **708** Blasting Battery .....each **$2.85**

"EVEREADY" "HOT SHOT" BATTERIES

For all purposes requiring four or more dry cells in series, Eveready Hot Shot Batteries are recommended. It is only necessary to connect two wires to the bindings posts and the battery is ready to operate. It is particularly adapted for tractors, small automobiles, motor boats, gas engines, blasting, fire and burglar alarms, gongs, bells, annunciators, signals, etc.

Eveready Hot Shot Batteries are composed of specially manufactured cells assembled in a steel container. All internal connections are made with soldered copper strips and the cells are completely insulated against accidental short circuits. Because of their rugged steel construction they are superdurable and impervious to water.

Cat. No.	Volts	Lgth. In.	Wdth. In.	Hgth. In.	Wt.Lbs. Std.Pkg.	Std.Pkg. Qty.	Price Each
1461	6	10⅜	2¾	7¼	58¼	6	**$3.50**
1462	6	5 5/16	5 5/16	7¼	39¼	4	**3.50**
1562	7½	7⅞	5	7¼	50½	4	**4.50**
1662	9	7 13/16	5¼	7¼	60¼	4	**5.25**

For higher voltages or for very heavy duty, several Hot Shot Batteries can be used in series or in multiple.

"EVEREADY" RADIO BATTERIES

No. A-1300 AIR CELL "A" BATTERY

An "Air Cell" "A" battery for 1.4 volt receivers. Operates between 1.25 volts and 1.1 volts, and is guaranteed to deliver 1500 hours on receivers drawing 0.2 ampere (200 milliamperes).

Price, No. **A-1300** Air Cell "A" Battery .....each **$5.45**

NO. A-2300 AIR CELL "A" BATTERY

"A" battery for 2-volt receivers. Provides maximum "A" power at an economical price. Operates always at just the right voltage level — no rheostats, ballast tube or power wasting regulator is needed.

Price, No. **A-2300** Air Cell "A" Battery....**$9.55**

NO. A-2600 AIR CELL "A" BATTERY

No. A-2600 2.5-volt radio "A" battery provides highest possible "A" battery efficiency for 2-volt receivers. Guaranteed to deliver 1000 hours of steady 2-volt current.

Price, No. **A-2600** Air Cell "A" Battery **$12.30**

No. 740 DRY "A" BATTERY PACK

No. 740 is a 1½-volt Dry "A" battery pack, for use with receivers using 1.4-volt tubes. Where low initial price is the chief consideration, it will give reliable service.

An efficient "A" battery for the price but no dry "A" battery will be as satisfactory or give as many hours of service per dollar as will "Air Cell" batteries.

Price, No. **740** Battery.....**$4.25**

DRY "A" BATTERIES FOR PORTABLE RECEIVERS

No. 743—1½-Volt

Contains 6 radio "A" cells. For longest "A" battery life, the largest "A" battery that the receiver will accommodate should be used.

Cat. No.	Dimensions Lgth.	Wdth.	Hght.	Wt.Lbs. Each	Price Each
743	3 13/16	2⅝	4 1/32	2	**$1.50**

"EVEREADY" RADIO BATTERIES

DRY "A" BATTERIES FOR PORTABLE RECEIVERS

No. 742—1¼-Volt

Contains 4 radio "A" cells. This battery should be used with No. 738 "B" battery. As a general rule, the largest "A" battery that the receiver will accommodate should be used for best results.

Cat. No.	Dimensions Lgth.	Wdth.	Hght.	Wt. Lbs. Each	Price Each
742	2 3/32	2 3/32	4	1½	$1.05

No. 724—6 VOLT "A" BATTERY

For portable receivers. Overall dimensions: 1 7/32 x1 3/32 x2 11/32 inches. Unit package quantity, 12. Flashlight terminals.

Price, No. **724** "A" Battery .....each **$0.60**

No. 736 4¼ VOLT "A" BATTERY

For portable receivers. Overall dimensions: 3 15/16 x1 7/16 x4 3/32 inches. Unit package quantity, 6. Battery weight, 1 lb. 1 oz. Socket—, +4½ Terminals.

Price, No. **736** "A" Battery ....each **$0.85**

No. 457 67½ VOLT "B" BATTERY

For portable receivers. Overall dimensions: 2 13/16 x 1 5/8 x2½ inches. Unit package quantity, 6. Battery weight, 7⅞ oz. Snap Type —, +67½ terminals.

Price, No. **457** Battery .....each **$2.50**

No. 490 90-VOLT "B" BATTERY

For portable receivers. Overall dimensions: 3 23/32 x 1 5/8 x3 13/32 inches. Unit Package quantity, 6. Battery weight, 1 lb. ½ oz. Snap Type—, +90 terminals.

Price, No. **490** "B" Battery .....each **$3.25**

"EVEREADY" RADIO BATTERIES

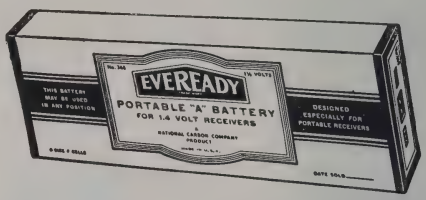
DRY "A" BATTERIES FOR PORTABLE RECEIVERS

No. 746—4½-Volt

For AC-DC portable receivers. Standard 2-prong, 4½-volt socket. Contains 3 radio "A" cells.

Cat. No.	Dimens., Inches Lgth.	Wdth.	Hght.	Wt. Each	Price Each
746	3 15/16	1 5/16	4 21/32	1 lb. 4 oz.	$0.90

No. 745, 1½-Volt—No. 747, 6-Volt 8 Radio "A" Cells



For use with "Mini-Max" "B" batteries. 2 prong sockets. Contains 8 radio "A" cells. No. 747 is for AC-DC portable receivers.

Cat. No.	Socket Voltage	Dimensions, Inches Lgth.	Wdth.	Hght.	Wt. Lbs. Each	Price Each
745	1½	3⅞	1 7/16	10 25/32	2 lbs. 10½ oz.	$2.00
747	6	3⅞	1 7/16	10 25/32	2 lbs. 11 oz.	2.00

A-B PACKS FOR PORTABLE RADIOS

For 1.4 Volt Portable Receivers

Cat. No.	Voltage "A"	"B"	Dimensions, Inches Lgth.	Wdth.	Hght.	Unit Pkg.	Price Each
752	9	90	14 1/16	2 1/16	4 1/16	1	$6.25
753	7½-9	90	9 7/32	2 23/32	4 1/16	1	5.65
754	7½&9	90	10 15/32	3¼	4	1	5.95
755	6&7½	75	8 9/16	2 7/16	3¾	1	5.25
756	7½	90	8⅞	2⅛	3 23/32	1	5.75

"B" BATTERIES FOR PORTABLE RECEIVERS

No. 482 Eveready 45-Volt "B" Battery

Employs a radically different principle of battery construction. It gives far more listening-hours than a conventional battery of equal size.

Cat. No.	Dimens., In. L.	W.	H.	Wt. Lbs. Each	Price Each
482	3 13/32	1 27/32	5½	2 lbs.	$2.25

"EVEREADY" RADIO BATTERIES

"B" BATTERIES FOR PORTABLE RECEIVERS

No. 467 Eveready 67½-Volt Battery

For personal or camera-type receivers. Length, 2 13/16 inches; width, 1⅜ inches; height, 3 13/16 inches.

Snap Fastener; —, +67½.

Cat. No.	Unit Pkg.	Battery Wt. Oz. Each	Price Each
467	6	12	$2.50

No. 455 Eveready 45-Volt Battery

For personal or camera-type sets. Length, 2 13/16 inches; width, 1-inch; height, 3 1/16 inches.

Snap Fastener; —, +45.

Cat. No.	Unit Pkg.	Battery Wt. Oz. Each	Price Each
455	6	7⅘	$1.95

No. 738 Standard Socket

A smaller plug-in type portable "B" battery for receivers with insufficient space for the larger long-lived No. 762 battery.

Cat. No.	Dimensions, In. Lgth.	Wdth.	Hght.	Wt. Lbs. Each	Price Each
738	3	2 1/16	4⅛	1¼	$2.85

"MINI-MAX" A-B BATTERY PACK

1½ Volt A—90 Volt B

The "Mini-Max" "B" battery available in an A-B Pack for farm radio receivers.

Cat. No.	Dimensions, Inches Length	Width	Height	Unit Pkg.	Wt. Lbs. Each	Price Each
758	10 11/16	4⅛	6 13/16	1	14¾	$6.95

No. 768 "C" BATTERY

Can be used as C battery for dry cell power tubes CX 220 and UX 120 and power tubes of the CX 371 and UX 171 type, also as B battery in portable sets.

Price, No. 768 C Battery....each $2.15

No. 781 4½-VOLT "C" BATTERY

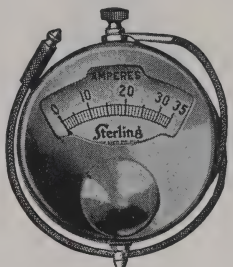
Contains three large radio cells giving 4½ volts. Screw terminals.

Price, No. 781 C Battery.....each $0.55

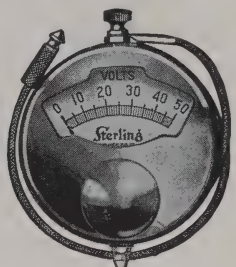
STERLING POCKET METERS

STANDARD LINE

Direct Current Pocket Ammeters, Voltmeters and Voltammeters for All Purposes



24 Ammeter



34C Voltmeter

Sterling Pocket Ammeters, Voltmeters and Voltammeters are useful in all kinds of battery testing, automotive ignition work, servicing radios, gas engines, motor-boats, door-bells, telephones, and in low-voltage electrical work generally. They also serve as polarity indicators.

Meters have correct scale calibrations, are durable, have clearly marked dials and handsome full nickel-finished cases, 2¼ inches in diameter and ⅝-inch thick.

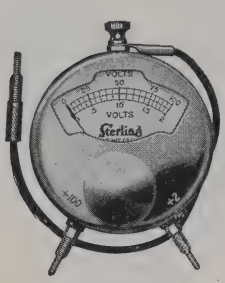
The ammeter is for testing dry cells; the voltmeter for storage batteries. The voltammeter, a combination of both ammeter and voltmeter, is invaluable to those who work with both dry and storage batteries. No. 23 is for testing photo-flash dry batteries. No. 24 is for testing No. 6 dry cells; No. 24A for testing dry cells including heavy-duty Ignition type of cell; No. 33 for single cells, Eveready air cell; No. 35A for testing flashlight and hearing aid batteries; No. 34 for Hot Shot batteries or 6-volt storage; No. 34A for testing 12-volt batteries, dry or storage; No. 34B for 22½-volt batteries; No. 34C for testing B batteries; No. 44 for storage batteries and dry cells; No. 44A for storage batteries and dry cells; No. 45 for testing No. 6 dry cells and B batteries; No. 45A for testing dry cells including the heavy-duty Ignition type and ordinary 45-volt B batteries.

Standard package, 10; weight, 4 pounds.

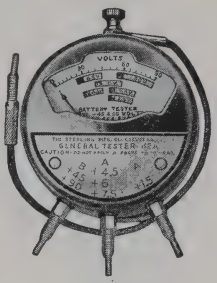
Cat. No.	Style	Range	Scale Division	Price Each
23	Ammeter for testing photo-flash dry batteries	0-20 amp.	1/2 amp.	$2.50
24	Ammeter	0-35 amp.	1 amp.	2.25
24A	Ammeter	0-50 volt	1 amp.	2.30
33	Voltmeter	0- 3 volt	1/10 volt	2.30
34	Voltmeter	0-10 volt	1/5 volt	2.30
34A	Voltmeter	0-16 volt	1/2 volt	2.50
34B	Voltmeter	0-30 volt	1 volt	2.50
34C	Voltmeter	0-50 volt	1 volt	3.00
44	Voltammeter	0-35 amp. 0-10 volt	1 amp. 1/5 volt	2.75
44A	Voltammeter	0-35 amp. 0-16 volt	1 amp. 1/2 volt	3.00
45	Voltammeter	0-35 amp. 0-50 volt	1 amp. 1 volt	4.00
45A	Voltammeter	0-50 amp. 0-50 volt	1 amp. 1 volt	4.25

STERLING POCKET METERS

TESTERS FOR DRY BATTERIES OF PORTABLE, POCKET AND CAMERA TYPE RADIO SETS



No. 38A Voltmeter



No. 42A General Tester

No. **38A** Voltmeter for 90-volt B batteries and 1½-volt A batteries. Scale 0-100-volt. 5-v. div. Scale 0-2-volt, 1/10-volt div. Tests 45-v. and 90-v. B batteries and 1½-v. A batteries.

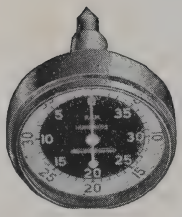
Price, No. **38A** Pocket Meter.....each **$3.75**

No. **42A** Graphic General Tester. Red and green color chart for all standard batteries including 45-v. and 90-v. B batteries and 1.5-v., 4.5-v., 6-v., and 7.5-v. A batteries. 0-100-v. scale for special sizes of B batteries, 5-v. div. Tests all batteries of of portable, pocket and camera sets.

Price, No. **42A** Pocket Meter.....each **$6.00**

STEWART-WARNER TACHOMETER

MODEL 757-W—PORTABLE SIZE



This handy, easy to read, tachometer is designed and constructed to meet every day needs. It provides that knowledge of running speeds, so vital to efficient machine operation. It will serve as a constant check on tools and machines, thereby helping you to affect proper maintenance and service.

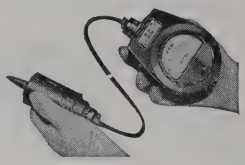
The Model 757-W is only 2¾ inches in width and 4 inches in overall length. Its sturdy construction guarantees long life. Face dial is two-color — inner circle (counter-clockwise) indications are white numerals on black background. Outer circle (clockwise) indications are black numerals on white background.

Two rubber tips are supplied with Model 757-W Tachometer. No. 96798 Cone Tip for centered shafts; No. 96799 Cup Tip for flat or convex end shafts.

Each tachometer is packed in an individual box which can be retained and used as a case for the instrument; six to a carton.

Price, Model **757-W** Tachometer.....each **$10.45**

IDEAL ELECTRIC TACHOMETER



Gives accurate check on production speeds. Two sizes for speeds up to 5000 r.p.m. Accurate to plus or minus 1 per cent of full scale deflection.

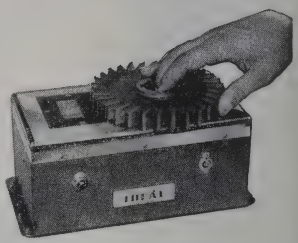
Consists of small generator coupled to electric meter. Variations in speed of generator are positively and accurately determined by the meter, which is capable of withstanding a momentary overload up to four times the maximum speed.

The meter is provided with two scales—"high" and "low," easily changed from one to the other with a switch on side of case. The units may be used together as a "Hand Type" Tachometer, or for many applications including permanent mounting. The generator and meter may be operated as a "Separable Type" and connected only by a two-conductor electric cord. Size of complete unit 3x7½x2½ inches, including ¾-inch shaft extension.

Weight, 3 lbs.

Cat. No.	Description	Wt. Lbs. Each	List Each
50–001T	0-2500 r.p.m.	3	**$152.90**
50–002T	0-5000 r.p.m.	3	**152.90**

IDEAL DEMAGNETIZERS



Powerful; portable. Quickly demagnetizes work held in magnetic chucks, tools, drills, punches, dies, etc. Clinging metallic dust, flakes, fine chips, etc., are easily removed by simply passing across the demagnetizer poles.

Large dies, castings, etc., can be demagnetized by moving the Demagnetizer across their surface. Made in two sizes, 5 ampere (6.35 sq. in. pole area) and 15 ampere (17.6 sq. in. pole area).

Weight, 17.5 lbs. and 40 lbs. respectively.

Cat. No.	Type	Voltage Rating	Price Each
13-001	Surface	115V., 50-60 Cycle	**$99.00**
13-005	Surface	115V., 50-60 Cycle	**176.00**
13-011	Hand	115V., 50-60 Cycle	**33.00**

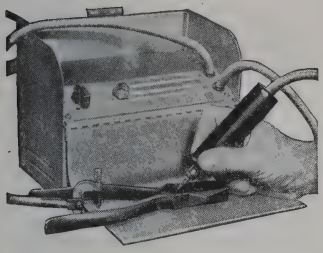
IDEAL INSULATION TESTER

Will detect grounds, shorts and broken wires. Tests up to 2500 volts. Seven test voltages: 500, 1000, 1250, 1500, 1750, 2000 and 2500.

Operates from any electrical outlet. All current carrying parts are full and carefully insulated. Spring operated safety sleeves, over the test points, which can only be bared by pressing forward the buttons on side of handles. 3-wire has safety type cord. Rating 600 volt amp.

Cat. No.	Description	Wt. Lbs. Each	List Each
41–001	115 v., 50-60 cycle	20	**$121.00**
41–003	230 v., 50-60 cycle	20	**143.00**

IDEAL ELECTRIC ETCHERS



Used like a pencil. Burns right into smooth surfaced iron, steel and their alloys, leaving a permanent mark. Depth of mark is governed by speed of movement and by heat switch.

For marking tools, parts, materials. Prevents theft, confusion, delays — avoids mistakes.

Cat. No.	Description		Price Each
11-009	Standard	115 Volt, 50-60 Cy.	**$65.40**
11-048	Machine Shop	115 Volt, 50-60 Cy.	**163.40**
11-081	Universal	115 Volt, 50-60 Cy.	**107.70**

GENERAL ELECTRIC CLOCKS

Commercial Business Clocks

LOOK AT THESE PLUS FEATURES:

- Easy-to-read dial — black numerals and hands.
- Durable brown-plastic case — easy to clean.
- Red sweep second hand.
- Durable cord set — Approved by Underwriters' Laboratories, Inc.

ADVANTAGES OF G-E COMMERCIAL-BUSINESS CLOCKS

Economy:
Costs less than a cent and a half a week at national average rates.

Dependability:
Famous General Electric quality workmanship assures years of dependable operation.

Convenience:
No winding — no costly installation charges.

No Messy Oiling:
All moving parts sealed in permanent bath of oil.

Regulating:
Accurate time is maintained by your electric utility company.

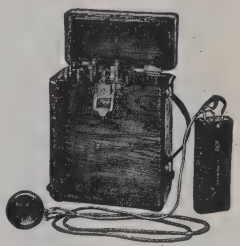
Model No.	Dimensions in Inches — Dial	Case Size	Depth	Retail Price
1H-1608	8	10 13/16	2 7/8	**$ 9.95**
1H-1612	12	12 1/2	3 1/4	**12.95**
1H-1615	15	17 1/2	4	**17.95**

MATTHEWS TELEHEIGHT

Anyone can use this handy little instrument, and it will save valuable time in quickly and accurately figuring heights of poles, trees, wires, buildings or other objects. No moving parts. Eliminates guessing. Used by power companies, municipalities, electrical contractors, telephone and telegraph companies, railroads and lumber companies. Highly recommended for appraisal work. Real estate men use them for figuring cubical contents of buildings. Heavy leather carrying case fits vest pocket or it can be attached to belt by loop provided on back of case.

Price, Type CW Teleheight.....each **$13.80**

MATTHEWS WOODPECKER TELEFAULT



Locates trouble on telephone, telegraph, signal and certain classes of unenergized electric light and power cables. Only uses one dry cell battery. Maximum voltage under 5 volts. Does not noise up other working pairs, because of the inductive field created. Tone like a woodpecker on a pole — not a hum.

Description	Price Each
Type L	**$74.75**
Extra Exploring Coil	**18.40**
Extra Receivers	**8.05**

JUSTRITE SAFETY CANS

1 Pint and 1 Qt. Sizes | **½ Gallon and 1 Gallon Sizes** | **2, 3, and 5 Gallon Sizes**

Non-explosive Cans — for using, handling and storing gasoline, benzine and other explosive or flammable liquids. Approved, inspected and labelled by Underwriters' Laboratories, Inc. Approved by Factory Mutual Fire Insurance Companies (as below). Finished in baked Red Enamel. Made of 24 gauge steel, lead coated. Large nozzles, easy to fill. "No-Spill" pouring lip. Balances for easy carrying. Seven sizes.

Cat. No.	Capacity	Wt. Lbs., Each	Price Each	Cat. No.	Capacity	Wt. Lbs., Each	Price Each
1000	1 Pt.	2	**$5.00**	**1040**	2 Gal.	7	**$7.60**
1010	1 Qt.	2 ½	**5.00**	**1050**	3 Gal.	8	**8.30**
1020	½ Gal.	3	**6.10**	**1060**	5 Gal.	9	**9.40**
1030	1 Gal.	4	**6.30**	.....	.....	..	.....

JUSTRITE OILY WASTE CANS

For safe handling of waste, rags and other flammable materials. Approved and labelled by Underwriters' and Factory Mutual Insurance Companies. Body of 24 gauge galvanized sheet steel, cover No. 22 gauge. 4-inch legs, and handles, are of ⅛-inch band iron (1 inch wide).

With Foot Lever

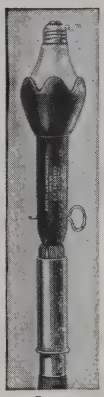
With Foot Lever Attachment

Cat. No.	Size, Inches Excl. of Legs	Cap. Gal.	Shpg. Wt. Lbs.	Price Each
9-1	11¾x13	6	14	$8.80
9-3	13½x15	10	17	11.00
9-5	15½x17	14	21	13.00

Without Foot Lever

9-1A	11¾x13	6	12	7.80
9-3A	13½x15	10	15	10.00
9-5A	13½x17	14	19	11.70

CHADSEY SAFETY LAMP CHANGER WITH BASE REMOVER



Lamp Changer

Base Remover

Safe, convenient method of changing electric light lamps and removing broken lamp bases easily. To remove a defective lamp — the heavy gauge synthetic rubber Changer Head slides over the lamp, securely holding and gripping it. A slight upward pressure increases the gripping power and lamp is easily seated or unseated by rotating the sectional pole.

By reversing Changer Head, broken lamp bases can be safely removed from sockets.

Size—Watts	Base	Inside Diam. (8ths of an inch)	Price Each
10–15	Medium	14	$3.25
25–100	Medium	19–21	3.50
150	Medium	25	4.00
200–300	Medium	30	4.50
300	Mogul	35	6.00
500	Mogul	40	8.50
750–1500	Mogul	52	9.50
150 PAR 38	Medium	38	6.50
100–300 R 40	Medium	40	6.50

SECTIONAL POLES

Standard lengths are 4 and 6 feet, 1⅛ diameter kiln dried hard wood, stained and waxed. Sections are fitted with heavy gauge brass couplings with spring button lock. Sections may be easily coupled to reach any height by using multiples of the 4 or 6 ft. lengths.

4 ft. lengths.....per section $3.50
6 ft. lengths.....per section 4.00

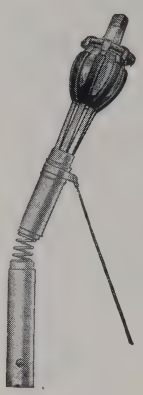
ADAPTER

Adapters are used for connecting the various sizes of changer heads to sectional poles. Order one Straight Adapter per set. Order Angle Adapter if desired.

Straight Adapter $1.50
Angle Adapter—Adjustable 3.75

McGILL ADAPTABLE LAMP CHANGERS

With Rubber Covered Fingers and Coil Spring



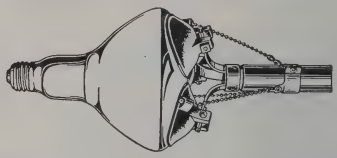
The McGill Adaptable Lamp Changer insures more convenient replacement of light bulbs in any location. A coil spring around the ends of the rubber covered fingers grips the bulb firmly.

The angle adjustment on the No. 150-CA and No. 151-CA, permits tilting of the head for bulbs in horizontal position. Indispensable for removing lamps from high inaccessible places in ceilings, signs, side walls, etc. Other models are furnished without angle adjustment.

Cat. No.	Lamp Size	Wt. Oz. Each	Price Each
	With Angle Adjustment		
150-CA	15- 60-w	8	$7.40
151-CA	100- 200-w	9	7.40
	No Angle Adjustment		
151-C	300- 500-w	10	8.10
153-C	750-1500-w	10	8.60
154-C	400-w Merc. Lamp	8	8.60
156-C	PAR-38, R-40	12	8.10

ADAPTABLE LAMP CHANGER

With Rubber Suction Cup Assembly



Designed for bottom contact of lamps mounted flush in window lighting and similar installations. Three rubber suction cups securely grip the bottom of 200-watt, spot or flood lamps.

Cat. No.	Description	Wt. Oz. Each	Price Each
157-C	Suction Cups, 200-watt, spot or flood	5	$8.10

STEEL LAMP CHANGER POLES

Insulated for Safety

Available in 5½-foot sections, fully insulated and interchangeable. Opposite ends telescope and lock to complete desired multiple section length. A rubber bumper for the assembled pole end is furnished with each changer head — protects furniture and floors.

Cat. No.	Description	Wt. Oz. Each	Price Each
160-P	Steel Interchangeable, 5½ ft. sections	24	$5.20

McGILL LAMP BASE REMOVER

Provides a fully insulated, safe and sure way to remove bases of broken lamp bulbs without possibility of injury to hands from shock or broken glass. Fits lamp changer pole and will handle standard and mogul lamp base.

Cat. No.	Description	Wt. Oz. Each	Price Each
200	Lamp Base Remover	4	$2.60

RULES FOR RESUSCITATION FROM ELECTRICAL SHOCK, USING THE PRONE PRESSURE METHOD

By Professor Shafer of Edinburgh, Scotland

Through courtesy of Public Service Company of Colorado and The National Electric Light Association

Efforts at resuscitation must be begun without a moment's delay, the instant the patient is freed from the contact. Accidental shocks seldom result fatally if the victim is aided immediately and the efforts to resuscitate continued.

If the body is in contact with a conductor, a dry stick of wood or a dry piece of clothing should be used to remove the conductor, or roll the body to one side. If the body is in contact with the earth, any loose or detached piece of clothing may be seized with impunity to draw it away from the conductor.

Directions

The Shafer, or "Prone Pressure" method.

I. The man is laid upon his stomach, face turned to one side, so that the mouth and nose do not touch the ground. See that the mouth contains no tobacco, spittle, or false teeth.

II. The operator kneels, straddling the patient's hips, facing the patient's head.

III. The operator places his spread hands upon the lower ribs of the patient and throws his own body and shoulders forward, so as to bring his weight heavily upon the lower ribs of the patient.

The operator's downward pressure should occupy about three seconds, or while he is counting six slowly; then his hands are suddenly removed, counting four before the downward pressure is resumed. Squeezing out the air in this manner creates a partial vacuum, and on release of pressure the air rushes into the lungs, the elasticity of the chest walls causing the chest to expand, giving the subject about twelve respirations per minute.

In all cases the efforts at resuscitation should be continued until the arrival of the physician. Any evidence of returning breathing should encourage the operator to continue his efforts. Artificial respiration should be continuous for one hour, much longer, if there are any evidences of returning animation.

First — Summon the Doctor at Once, Without Delay

Second — As soon as artificial respiration has been started, an assistant may loosen the clothing and collar, then hold a cloth saturated with aromatic spirits of ammonia near the nose. KEEP THE PATIENT WARM. The aromatic spirits of ammonia is more effective than the oxygen.

Third — No stimulants nor liquids of any kind should be administered by the mouth while respiration is suspended. KEEP BACK THE CROWD.

GRAPHICAL ELECTRICAL SYMBOLS FOR ARCHITECTURAL PLANS

Ceiling Wall

GENERAL OUTLETS

- Outlet.
- Blanked Outlet.
- Drop Cord.
- Electrical Outlet; for use only when circle used alone might be confused with columns, plumbing, symbols, etc.
- Fan Outlet.
- Junction Box.
- Lamp Holder.
- Lamp Holder with Pull Switch.
- Pull Switch.
- Outlet for Vapor Discharge Lamp.
- Exit Light Outlet.
- Clock Outlet. (Specify Voltage.)

CONVENIENCE OUTLETS

- Duplex Convenience Outlets.
- Convenience Outlet other than Duplex. 1=Single, 3=Triplex, etc.
- Weatherproof Convenience Outlet.
- Range Outlet.
- Switch and Convenience Outlet.
- Radio and Convenience Outlet.
- Special Purpose Outlet. (Des. in Spec.).
- Floor Outlet.

SWITCH OUTLETS

- S — Single Pole Switch.
- S_2 — Double Pole Switch.
- S_3 — Three Way Switch.
- S_4 — Four Way Switch.
- S_D — Automatic Door Switch.
- S_E — Electrolier Switch.
- S_K — Key Operated Switch.
- S_P — Switch and Pilot Lamp.
- S_{CB} — Circuit Breaker.
- S_{WCB} — Weatherproof Circuit Breaker.
- S_{MC} — Momentary Contact Switch.
- S_{RC} — Remote Control Switch.
- S_{WP} — Weatherproof Switch.
- S_F — Fused Switch.
- S_{WF} — Weatherproof Fused Switch.

SPECIAL OUTLETS

a,b,c,etc

Any Standard Symbol as given above with the addition of a lower case subscript letter may be used to designate some special variation of Standard Equipment of particular interest in a specific set of Architectural Plans.

When used they must be listed in the Key of Symbols on each drawing and if necessary further described in the specifications.

PANELS, CIRCUITS, AND MISCELLANEOUS

- Lighting Panel.
- Power Panel.
- Branch Circuit; Concealed in Ceiling or Wall.
- Branch Circuit; Concealed in Floor.
- Branch Circuit; Exposed.
- Home Run to Panel Board. Indicate number of Circuits by number of arrows. Note: Any circuit without further designation indicates a two-wire circuit. For a greater number of wires indicate as follows: /// (3 wires) //// (4 wires), etc.
- Feeders. Note: Use heavy lines and designate by number corresponding to listing in Feeder Schedule.
- Underfloor Duct and Junction Box. Triple System. Note: For double or single systems eliminate one or two lines. This symbol is equally adaptable to auxiliary system layouts.
- Generator.
- Motor.
- Instrument.
- Power Transformer. (Or draw to scale.)
- Controller.
- Isolating Switch.

AUXILIARY SYSTEMS

- Push Button.
- Buzzer.
- Bell.
- Annunciator.
- Outside Telephone.
- Interconnecting Telephone.
- Telephone Switchboard.
- Bell Ringing Transformer.
- D — Electric Door Opener.
- F — Fire Alarm Bell.
- F — Fire Alarm Station.
- City Fire Alarm Station.
- FA — Fire Alarm Central Station.
- FS — Automatic Fire Alarm Device.
- W — Watchman's Station.
- W — Watchman's Central Station.
- H — Horn.
- N — Nurse's Signal Plug.
- M — Maid's Signal Plug.
- R — Radio Outlet.
- SC — Signal Central Station.
- Interconnection Box.
- Battery.
- Auxiliary System Circuits. Note: Any line without further designation indicates a 2-Wire System. For a greater number of wires designate with numerals in manner similar to —.—12–No. 18W-¾" C., or designate by number corresponding to listing in Schedule.
- Special Auxiliary Outlets. Subscription letters refer to notes on plans or detailed description in specifications. (a,b,c)

(Symbols in accordance with American Standards Association Standard ASA Z32.9-1943.)

USEFUL INFORMATION

DISCOUNT TABLE

Given discount reduced to its decimal equivalent and also the remainder after subtracting the decimal equivalent from unity 1.

Regardless of the rotation of discounts the net results are the same. Example: 50-10-20% is the same as 10-20-50%.

Discount	Decimal Equivalent	1.—Decimal Equivalent or the Multiplier	Discount	Decimal Equivalent	1.—Decimal Equivalent or the Multiplier	Discount	Decimal Equivalent	1.—Decimal Equivalent or the Multiplier
2½	.025	.975	40-10-6	.493	.507	50-15-10-5	.637	.363
5-2½	.074	.926	40-10-7½	.501	.499	50-15-10-5-5	.655	.345
5-5	.098	.902	40-10-7½-5	.525	.475	50-16⅔	.583	.417
10-2½	.123	.877	40-10-10	.514	.486	50-16⅔-5	.604	.396
10-5	.145	.855	40-10-10-5	.538	.462	50-20-5	.62	.38
10-5-2½	.167	.833	40-10-10-10	.563	.437	50-20-10	.64	.36
10-10	.19	.81	40-10-10-10-5	.584	.416	50-25	.625	.375
10-10-2½	.211	.789	40-10-12½	.528	.472	52½	.525	.475
10-10-5	.231	.769	40-10-16⅔	.55	.45	52½-10	.573	.427
10-10-5½	.2345	.7655	40-10-16⅔-5	.573	.427	52½-10-16⅔	.644	.356
10-10-7	.247	.753	40-12½	.475	.525	55-5	.573	.427
10-10-10	.271	.729	40-15	.49	.51	55-10	.595	.405
10-10-10-5	.308	.692	40-15-5	.515	.485	55-10-10	.636	.364
10-10-10-5-2½	.325	.675	40-16⅔	.50	.50	60-5	.62	.38
10-10-7-15	.359	.641	40-16⅔-5	.525	.475	60-5-5	.639	.361
10-10-10-10	.344	.656	42½	.425	.575	60-5-10	.658	.342
10-10-10-10-5	.377	.623	42½-10	.483	.517	60-10	.64	.36
10-10-10-10-10	.41	.59	42½-10-16⅔	.569	.431	60-10-5	.658	.342
12½	.125	.875	45-5	.478	.522	60-10-5-5	.675	.325
12½-2½	.147	.853	45-10	.505	.495	60-10-10	.676	.324
12½-5	.169	.831	45-10-5	.529	.471	60-10-10-5	.692	.308
12½-10	.213	787	45-10-10	.555	.445	60-10-15-5	.71	.29
15-2½	.172	.828	45-10-10-5	.577	.423	60-15-5	.677	.323
15-5	.193	.807	45-10-10-10	.599	.401	60-20-5	.696	.304
15-10	.235	.765	45-10-10-10-5	.619	.381	60-20-15	.728	.272
15-10-5	.273	.727	45-10-12½	.567	.433	62½	.625	.375
15-10-10-5-5	.379	.621	45-10-16⅔	.588	.412	62½-5	.644	.356
16⅔	.1666	.8333	45-12½	.519	.481	62½-7	.651	.349
16⅔-5	.209	.791	45-15	.533	.467	62½-10	.663	.337
16⅔-5-2½	.229	.771	45-15-5	.556	.444	62½-10-5	.679	.321
16⅔-5-5	.248	.752	45-16⅔	.542	.458	62½-10-7	.687	.313
16⅔-10-2½	.269	.731	50-5	.525	.475	65-5	.668	.332
16⅔-10-5-2½	.306	.694	50-10	.55	.45	65-10	.685	.315
16⅔-10-5-5	.323	.677	50-10-5	.572	.428	66⅔	.6667	.3333
20-5	.24	.76	50-10-5-5	.594	.406	66⅔-5	.684	.316
20-10	.28	.72	50-10-10	.595	.405	66⅔-10	.701	.299
20-10-5	.316	.684	50-10-10-5	.615	.385	66⅔-10-5	.716	.284
25	.25	.75	50-10-10-5-5	.634	.366	67½	.675	.325
25-5	.288	.712	50-10-10-5-5-5	.653	.347	67½-10	.708	.292
25-10 15.6375	.325	.675	50-10-10-7	.624	.376	70-5	.715	.285
25-10-5	.359	.641	50-10-10-7-15	.68	.32	70-10	.73	.27
30-5	.335	.665	50-10-10-10	.635	.365	70-10-5	.744	.256
30-10	.37	.63	50-10-10-10-5	.653	.347	70-10-10	.757	.243
30-10-5	.402	.598	50—4–10's	.672	.328	70-10-10-5	.769	.231
30-10-5-5	.432	.568	50—4–10's—5	.689	.311	70-10-10-10	.781	.219
30-10-5-5-5	.46	.54	50—5–10's	.705	.295	70-10-10-10-5	.792	.208
30-10-12½	.449	.551	50—5–10's—5	.72	.28	70—4–10's	.803	.197
30-10-12½-5	.477	.523	50—6–10's	.735	.265	70—4–10's–5	.812	.188
30-12½	.388	.612	50—6–10's—5	.748	.252	70—5-10's	.822	.178
30-16⅔	.4167	.5833	50—6–10's-5-5	.76	.24	70—5-10's–5	.831	.169
30-16⅔-5	.446	.554	50—7–10's	.759	.241	70—6–10's	.84	.16
30-16⅔-10	.475	.525	50—7–10's—5	.772	.228	70—6–10's–5	.848	.152
30-16⅔-10-5	.502	.498	50—7–10's-5-5	.783	.217	80-5	.81	.19
32½	.325	.675	50—8–16's	.784	.216	80-10	.82	.18
32½-10	.393	.607	50-10-12½	.606	.394	80-10-5	.829	.171
32½-10-16⅔	.494	.506	50-10-15-5-5	.657	.343	80-10-10	.838	.162
33⅓	.3333	.6667	50-10-16⅔	.625	.375	80-10-10-5	.846	.154
33⅓-5	.367	.633	50-10-16⅔-5	.644	.356	85-5	.857	.143
33⅓-10	.401	.599	50-10-25	.663	.337	85-5-10-5-5	.883	.117
33⅓-10-5	.43	.57	50-10-25-5	.68	.32	85-10	.865	.135
35-5	.383	.617	50-10-25-10	.696	.304	87½	.875	.125
40-5	.43	.57	50-12½	.563	.437	87½-5	.882	.118
40-6	.436	.564	50-15	.575	.425	87½-5-10	.894	.106
40-10	.46	.54	50-15-5	.596	.404	87½-5-10-5	.899	.101
40-10-5	.487	.513	50-15-10	.618	.382	87½-5-10-5-5	.904	.096

USEFUL INFORMATION

National Electrical Code—1951

TABLE 20—CONDUCTOR SIZES AND OVERCURRENT PROTECTION FOR MOTORS

Full load current rating of motor amperes	Minimum size conductor in raceways For conductors in air or for other insulations see tables 1 and 2 AWG and MCM 1951 Code		For Running Protection of Motors****		Maximum Allowable Rating or Setting of Branch Circuit Protective Devices			
			Maximum rating of non-adjustable protective devices	Maximum setting of adjustable protective devices	WITH CODE LETTERS Single-phase and squirrel cage and synchronous. Full voltage, resistor and reactor starting, Code letters F to V inc. WITHOUT CODE LETTERS Same as above.	WITH CODE LETTERS Single-phase and squirrel cage and synchronous. Full voltage, resistor and reactor starting, Code letters B to E inc. Auto-transformer starting Code letters F to V inc. WITHOUT CODE LETTERS Squirrel cage and synchronous, auto-transformer starting, High reactance squirrel cage.*** Both not more than 30 amperes	WITH CODE LETTERS Squirrel cage and synchronous auto-transformer starting, Code letters B to E inc. WITHOUT CODE LETTERS Squirrel cage and synchronous, auto-transformer starting, High reactance squirrel cage.*** Both more than 30 amperes.	WITH CODE LETTERS All motors. Code letter A. WITHOUT CODE LETTERS DC and wound-rot. motors
	Type R Type T	Type RH	Amperes	Amperes				
Col. No. 1	2	3	5	6	7	8	9	10
1**	14	14	2*	1.25*	15	15	15	15
2**	14	14	3*	2.50*	15	15	15	15
3**	14	14	4*	3.75*	15	15	15	15
4**	14	14	6*	5.0*	15	15	15	15
5**	14	14	8*	6.25*	15	15	15	15
6**	14	14	8*	7.50*	20	15	15	15
7	14	14	10*	8.75*	25	20	15	15
8	14	14	10*	10.0*	25	20	20	15
9	14	14	12*	11.25*	30	25	20	15
10	14	14	15*	12.50*	30	25	20	15
11	14	14	15*	13.75*	35	30	25	20
12	14	14	15	15.00	40	30	25	20
13	12	12	20	16.25	40	35	30	20
14	12	12	20	17.50	45	35	30	25
15	12	12	20	18.75	45	40	30	25
16	12	12	20	20.00	50	40	35	25
17	10	10	25	21.25	60	45	35	30
18	10	10	25	22.50	60	45	40	30
19	10	10	25	23.75	60	50	40	30
20	10	10	25	25.0	60	50	40	30
22	10	10	30	27.50	70	60	45	35
24	10	10	30	30.00	80	60	50	40
26	8	10	35	32.50	80	70	60	40
28	8	10	35	35.00	90	70	60	45
30	8	8	40	37.50	90	70	60	45
32	8	8	40	40.00	100	80	70	50
34	6	8	45	42.50	110	90	70	60
36	6	8	45	45.00	110	90	80	60
38	6	6	50	47.50	125	100	80	60
40	6	6	50	50.00	125	100	80	60
42	6	6	50	52.50	125	110	90	70
44	6	6	60	55.0	125	110	90	70
46	4	6	60	57.50	150	125	100	70
48	4	6	60	60.0	150	125	100	80
50	4	6	60	62.50	150	125	100	80
52	4	6	70	65.0	175	150	110	80
54	4	4	70	67.50	175	150	110	90
56	4	4	70	70.00	175	150	120	90
58	3	4	70	72.50	175	150	120	90
60	3	4	80	75.00	200	150	120	90
62	3	4	80	77.50	200	175	125	100

USEFUL INFORMATION

TABLE 20—CONDUCTOR SIZES AND OVERCURRENT PROTECTION FOR MOTORS, Continued

National Electrical Code—1951

Col. No. 1	Type R Type T 2	Type RH 3	Amperes 5	Amperes 6	7	8	9	10
64	3	4	80	80.00	200	175	150	100
66	2	4	80	82.50	200	175	150	100
68	2	4	90	85.00	225	175	150	110
70	2	3	90	87.50	225	175	150	110
72	2	3	90	90.00	225	200	150	110
74	2	3	90	92.50	225	200	150	125
76	2	3	100	95.00	250	200	175	125
78	1	3	100	97.50	250	200	175	125
80	1	3	100	100.00	250	200	175	125
82	1	2	110	102.50	250	225	175	125
84	1	2	110	105.00	250	225	175	150
86	1	2	110	107.50	300	225	175	150
88	1	2	110	110.00	300	225	200	150
90	0	2	110	112.50	300	225	200	150
92	0	2	125	115.00	300	250	200	150
94	0	1	125	117.50	300	250	200	150
96	0	1	125	120.00	300	250	200	150
98	0	1	125	122.50	300	250	200	150
100	0	1	125	125.00	300	250	200	150
105	00	1	150	131.5	350	300	225	175
110	00	0	150	137.5	350	300	225	175
115	00	0	150	144.0	350	300	250	175
120	000	0	150	150.0	400	300	250	200
125	000	00	175	156.5	400	350	250	200
130	000	00	175	162.5	400	350	300	200
135	0000	00	175	169.0	450	350	300	225
140	0000	00	175	175.0	450	350	300	225
145	0000	000	200	181.5	450	400	300	225
150	0000	000	200	187.5	450	400	300	225
155	0000	000	200	194.0	500	400	350	250
160	250	000	200	200.0	500	400	350	250
165	250	0000	225	206.	500	450	350	250
170	250	0000	225	213.	500	450	350	300
175	300	0000	225	219.	600	450	350	300
180	300	0000	225	225.	600	450	400	300
185	300	0000	250	231.	600	500	400	300
190	300	250	250	238.	600	500	400	300
195	350	250	250	244.	600	500	400	300
200	350	250	250	250.	600	500	400	300
210	400	300	250	263.	.....	600	450	350
220	400	300	300	275.	.....	600	450	350
230	500	300	300	288.	.....	600	500	350
240	500	350	300	300.	.....	600	500	400
250	500	350	300	313.	.....	.....	500	400
260	600	400	350	325.	.....	.....	600	400
270	600	400	350	338.	.....	.....	600	450
280	600	500	350	350.	.....	.....	600	450
290	700	500	350	363.	.....	.....	600	450
300	700	500	400	375.	.....	.....	600	450
320	750	600	400	400.	.....	.....	.....	500
340	900	600	450	425.	.....	.....	.....	600
360	1000	700	450	450.	.....	.....	.....	600
380	1250	750	500	475.	.....	.....	.....	600
400	1500	900	500	500.	.....	.....	.....	600
420	1750	1000	600	525.	.....	.....	.....	.....
440	2000	1250	600	550.	.....	.....	.....	.....
460	.....	1250	600	575.	.....	.....	.....	.....
480	.....	1500	600	600.	.....	.....	.....	.....
500	.....	1500	.....	625.	.....	.....	.....	.....

*For running protection of motors of 1 horsepower or less, see section 4322.
**For the grouping of small motors under the protection of a single set of fuses, see section 4343.
***High-reactance squirrel-cage motors are those designed to limit the starting current by means of deep-slot secondaries or double-wound secondaries and are generally started on full voltage.
****For the running protection of motors, see section 4322.

FULL LOAD RATINGS OF A.C. AND D.C. MOTORS

3 Phase—60 Cycle Motors

H.P.	R.P.M.	Full Load Current			
		110 v	220 v	440 v	550 v
¼	1800	1 92	0 96	0 48	0 38
	1200	2 32	1 16	0 58	0 46
	900	2 90	1 45	0 73	0 58
⅓	1800	2 32	1 16	0 58	0 47
	1200	2 86	1 43	0 72	0 58
	900	3 50	1 75	0 88	0 71
½	1800	3.36	1.68	0.84	0.67
	1200	4.14	2 07	1 04	0 83
	900	5 80	2 90	1 45	1 16
¾	1800	4 66	2 33	1 17	0 93
	1200	5 70	2 85	1 43	1 14
	900	6 90	3 45	1 73	1 38
1	3600	5 50	2 75	1 38	1 10
	1800	6 10	3 05	1 53	1 22
	1200	7 08	3 54	1 77	1 42
	900	7 48	3 74	1 87	1 50
1½	3600	8 34	4 17	2 09	1 67
	1800	8 56	4 28	2 14	1 71
	1200	9 70	4 85	2 43	1 94
	900	11 60	5 81	2 91	2 32
2	3600	11 1	5 56	2 78	2 22
	1800	11 5	5 76	2 88	2 30
	1200	12 7	6 35	3 18	2 54
	900	14 4	7 21	3 61	2 88
3	3600	15 7	7 87	3 94	3 14
	1800	16 6	8 29	4 14	3 32
	1200	17 8	8 92	4 46	3 56
	900	20 4	10 20	5 09	4 08
5	3600	25 4	12 7	6 34	5 08
	1800	26 4	13 2	6 60	5 28
	1200	28 2	14 1	7 05	5 64
	900	31 2	15 6	7 80	6 24
7½	3600	38 4	19 2	9 6	7 68
	1800	38 6	19 3	9 7	7 72
	1200	40 6	20 3	10 2	8 12
	900	47 6	23 8	11 9	9 51
10	3600	49 0	24 5	12 3	9 8
	1800	50 4	25 2	12 6	10 1
	1200	53 2	26 6	13 3	10 6
	900	57 8	28 9	14 5	11 6
	600	67 6	33 8	16 9	13 5
15	3600	73 4	36 7	18 4	14 7
	1800	76 2	38 1	19 1	15 2
	1200	79 8	39 9	20 0	16 0
	900	83.8	41 9	21 0	16 8
	600	96 6	48 3	24 2	19 3
20	3600	98	49 0	24 5	19 6
	1800	101	50 5	25 3	20 2
	1200	103	51 7	25 9	20 6
	900	109	54 6	27 3	21 8
	600	123	61 5	30 8	24 6
25	3600	118	59 2	29 6	23 6
	1800	125	62 7	31 3	25 0
	1200	129	64 7	32 3	25 8
	900	135	67 4	33 7	27 0
	600	144	71 9	35 9	28 8
30	1800	146	72 8	36 4	29 2
	1200	154	77 1	38 6	30 8
	900	159	79 4	39 7	31 8
	600	176	87 9	43 9	35 2
40	1800	196	98	49 0	39 2
	1200	198	99	49 5	39 6
	900	208	104	52 0	41 6
	600	226	113	56 5	45 2
50	1800	242	121	60 5	48 4
	1200	244	122	61 0	48 8
	900	254	127	63 5	50 8
	600	276	138	69 0	55 2
60	1800	.....	143	71 5	57 2
	1200	.....	148	74 0	59 2
	900	.....	151	75 5	60 4
	600	.....	162	81 0	64 8
75	1800	.....	178	89 0	71 2
	1200	.....	181	90 5	72 4
	900	.....	187	93 5	74 8
	600	.....	199	99 5	79 6
100	1800	.....	233	116	93 2
	1200	.....	239	120	95 6
	900	.....	245	123	98 0
	600	.....	257	128	103.0
	450	.....	290	145	116.0

2 Phase, 4 Wire—60 Cycle Motors

H.P.	R.P.M.	Full Load Current			
		110 v	220 v	440 v	550 v
¼	1800	1 66	0 83	0.42	0.33
	1200	2 01	1 00	0.50	0.40
	900	2 51	1 25	0.63	0.50
⅓	1800	2 00	1.00	0.50	0.40
	1200	2 48	1 24	0.62	0.50
	900	3.04	1 52	0.76	0.61
½	1800	2.94	1.47	0.74	0.59
	1200	3.58	1 79	0 90	0.72
	900	5 02	2 51	1.25	1.00
¾	1800	4.03	2 02	1.01	0.81
	1200	4 93	2.47	1 24	0.99
	900	5.97	2.98	1.50	1 19
1	3600	4 76	2 38	1 19	0.95
	1800	5 28	2 64	1.32	1 06
	1200	6 13	3 06	1.53	1.23
	900	6.47	3.24	1 62	1 30
1½	3600	7 22	3 61	1.81	1.45
	1800	7 41	3.70	1 85	1 48
	1200	8 40	4 20	2 10	1 68
	900	10.0	5.03	2 52	2.01
2	3600	9 6	4 81	2 41	1.92
	1800	10 0	4 98	2.49	1.99
	1200	11 0	5.50	2 75	2.20
	900	12 5	6 23	3.12	2.49
3	3600	13.6	6.81	3.41	2.72
	1800	14 4	7 17	3.59	2.87
	1200	15 4	7 72	3.86	3.08
	900	17 7	8 80	4 40	3.54
5	3600	22 0	11 0	5.50	4.40
	1800	22 8	11 4	5.71	4.57
	1200	24 4	12 2	6.10	4.88
	900	27 0	13 5	6.75	5.40
7½	3600	33 2	16.6	8 31	6.65
	1800	33 5	16 7	8.40	6 68
	1200	35 1	17 6	8.80	7 02
	900	41 2	20 6	10 3	8.23
10	3600	42 4	21.2	10.6	8 48
	1800	43 6	21.8	10.9	8 75
	1200	46 0	23 0	11 5	9 17
	900	50 0	25 0	12.5	10.0
	600	58 5	29 2	14.6	11.7
15	3600	63 5	31 7	15.9	12.7
	1800	66 0	33 0	16.5	13.2
	1200	69 0	34 5	17.3	13.8
	900	72 5	36 3	18.2	14.5
	600	83 6	41 8	20 9	16.7
20	3600	84 8	42 4	21.2	17.0
	1800	87 5	43 7	21.9	17.5
	1200	89 2	44 7	22.4	17.8
	900	94 4	47 3	23.6	18.9
	600	106.0	53.0	26.7	21.3
25	3600	102	51 2	25 6	20.4
	1800	108	54 3	27 1	21 6
	1200	112	56 0	28.0	22 3
	900	117	58 3	29 2	23 4
	600	125	62 4	31.2	24 9
30	1800	126	63 0	31.5	25 3
	1200	133	66 7	33.4	26.7
	900	138	68 7	34 3	27 5
	600	152	76 1	38 0	30 5
40	1800	170	85	42.5	33 9
	1200	172	86	43 0	34.3
	900	180	90	45 0	36.0
	600	196	98	49 0	39 1
50	1800	209	105	52 4	41.9
	1200	211	106	52 8	42.3
	900	220	110	55.0	44.0
	600	239	120	60 0	47.7
60	1800	.....	124	62.0	49.5
	1200	.....	128	64.0	51.2
	900	.....	131	65.4	52.3
	600	.....	140	70 0	56.0
75	1800	.....	154	77 0	61.6
	1200	.....	157	78 4	62.6
	900	.....	162	81 0	64.8
	600	.....	172	86.0	68.8
100	1800	.....	202	100	80.6
	1200	.....	207	104	82.7
	900	.....	212	106	84.8
	600	.....	223	111	89.2
	450	.....	251	126	101.0

Single Phase Motors

H.P.	R.P.M.	Full Load Current			
		110 v	220 v	440 v	550 v
⅛	3600	2.52	1.26	0.63	0.50
	1800	2.80	1.40	0.70	0.56
	1200	3.40	1.70	0.85	0.68
⅙	3600	2.70	1.35	0.68	0.54
	1800	3.00	1.50	0.75	0.60
	1200	3.60	1.80	0.90	0.72
¼	3600	3.60	1.80	0.90	0.72
	1800	4.12	2.06	1.03	0.82
	1200	5.50	2.75	1.38	1.10
⅓	3600	4.50	2.25	1.13	0.90
	1800	5.00	2.50	1.25	1.00
	1200	6.00	3.00	1.50	1.20
½	3600	5.10	2.55	1.27	1.02
	1800	5.80	2.90	1.45	1.16
	1200	7.16	3.58	1.80	1.44
	900	10.0	5.02	2.50	2.00
¾	3600	7.17	3.58	1.79	1.44
	1800	8.06	4.04	2.02	1.62
	1200	9.86	4.94	2.48	1.98
	900	11.9	5.96	2.98	2.38
1	3600	9.5	4.76	2.38	1.90
	1800	10.6	5.28	2.64	2.12
	1200	12 3	6.12	3.06	2.46
	900	12.9	6.48	3.24	2.60
1½	3600	14.4	7.22	3.62	2.90
	1800	14.8	7.40	3.70	2.96
	1200	16.8	8.40	4.20	3.36
	900	20.0	10.10	5.04	4.02
2	3600	19.2	9.6	4.82	3.84
	1800	20.0	10.0	4.98	3.98
	1200	22.0	11.0	5.50	4.40
	900	25.0	12.5	6.24	4.98
3	3600	27.2	13.6	6.82	5.44
	1800	28.8	14.3	7.18	5.74
	1200	30 8	15 4	7.72	6.16
	900	35 4	17.6	8.80	7.08
5	3600	44.0	22.0	11.0	8.80
	1800	45.6	22.8	11.4	9.14
	1200	48 8	24 4	12.2	9.76
	900	54.0	27.0	13.5	10.8
7½	3600	66.4	33.2	16.6	13.3
	1800	67 0	33.4	16.8	13.4
	1200	70.2	35.2	17.6	14.0
	900	82.4	41.2	20.6	16.5
10	3600	84.8	42.4	21.2	17.0
	1800	87.2	43.6	21.8	17.5
	1200	92.0	46.0	23.0	18.3
	900	100.0	50.0	25.0	20.0
	600	117.0	58.4	29.2	23.4
15	3600	127	63.4	31.8	25.4
	1800	132	66.0	33.0	26.4
	1200	138	69.0	34.6	27.6
	900	145	72.6	36.4	29.0
	600	167	83.6	41.8	33.4

D. C. Motors

H.P.	Full Load Current		
	115 v	230 v	550 v
⅛	1.4	.7	.3
⅙	1.8	.9	.4
¼	2.3	1.2	.5
½	4.5	2.3	1.0
¾	6.5	3.3	1.4
1	8.4	4.2	1.7
1½	12.5	6.3	2.6
2	16.1	8.3	3.4
3	24.0	12.3	5.0
4	32	16.1	6.6
5	40	19.8	8.2
7½	58	28.7	12.0
10	75	38	16.0
12½	94	47	19.5
15	112	56	23.0
20	148	74	30
25	185	92	38
30	220	110	45
35	257	128	53
40	294	146	61
45	330	163	68
50	364	180	75
60	436	215	90
75	540	268	111
90	648	322	132
100	720	357	146

The full load ampere rating of motors of a given horse power rating will vary somewhat depending largely upon the type of motor. The full load values listed in the adjacent tables can be considered "average values" for the different types and makes of motors. High torque squirrel cage motors will have a full load current at least 10% higher than listed in the tables.

For 25 cycle motors, the full load current value will be approximately that of a 60 cycle motor having the same number of poles. In other words, for a 750 rpm. 25 cycle motor, use the data for the corresponding 1800 rmp. 60 cycle motor. This rule is reasonably correct for 25 cycle motors above 500 rpm.

For 2 phase, 3 wire squirrel cage motors, the current in the common line is about 1.4 times the full load current values that are listed for the 2 phase 4 wire motors.

FULL-LOAD AMPERES IN SINGLE-PHASE CIRCUITS OF VARIOUS VOLTAGES

Kva	120 V	240 V	480 V	2400 V	4160 V	4800 V	7200 V	7620 V	12,000 V	13,200 V
1.5	12.5	6.3	3.1	0.63	0.36	0.31	0.21	0.20	0.13	0.11
2.5	20.8	10.4	5.2	1.04	0.60	0.52	0.35	0.33	0.21	0.19
3	25.0	12.5	6.3	1.25	0.72	0.63	0.42	0.39	0.25	0.23
5	41.7	20.8	10.4	2.08	1.20	1.04	0.70	0.66	0.42	0.38
7.5	62.5	31.3	15.6	3.13	1.80	1.56	1.04	0.98	0.62	0.57
10	83.3	41.7	20.8	4.17	2.40	2.08	1.39	1.31	0.83	0.76
15	125	62.5	31.3	6.25	3.61	3.13	2.08	1.97	1.25	1.14
25	208	104	52.1	10.4	6.01	5.21	3.47	3.28	2.08	1.89
37.5	313	156	78.1	15.6	9.01	7.81	5.21	4.92	3.13	2.84
50	417	208	104	20.8	12.0	10.4	6.95	6.56	4.17	3.79
75	625	313	156	31.3	18.0	15.6	10.4	9.84	6.25	5.68
100	833	417	208	41.7	24.0	20.8	13.9	13.1	8.33	7.58
150	1250	625	313	62.5	36.1	31.3	20.8	19.7	12.5	11.4
200	1667	833	417	83.3	48.1	41.7	27.8	26.2	16.7	15.2
250	2083	1042	521	104	60.1	52.1	34.8	32.8	20.8	18.9
333	2775	1388	694	139	80.0	69.4	46.3	43.7	27.8	25.2
500	4167	2083	1042	208	120	104.2	69.5	65.6	41.7	37.9

FULL-LOAD AMPERES IN THREE-PHASE CIRCUITS OF VARIOUS VOLTAGES

Kva	208 V	240 V	480 V	2400 V	4160 V	4800 V	7200 V	8320 V	11,500 V	12,000 V	13,200 V
4.5	12.5	10.8	5.41	1.08	0.62	0.54	0.36	0.31	0.23	0.22	0.20
7.5	20.8	18.0	9.02	1.80	1.04	0.90	0.60	0.52	0.38	0.36	0.33
9	25.0	21.7	10.8	2.17	1.25	1.08	0.72	0.62	0.45	0.43	0.39
10	27.8	24.1	12.0	2.41	1.39	1.20	0.80	0.69	0.50	0.48	0.44
15	41.6	36.1	18.0	3.61	2.08	1.80	1.2	1.04	0.75	0.72	0.66
22.5	62.5	54.1	27.1	5.41	3.12	2.71	1.8	1.56	1.13	1.08	0.98
25	69.4	60.1	80.1	6.01	3.47	3.01	2.0	1.75	1.26	1.20	1.09
30	83.3	72.2	36.1	7.22	4.16	3.61	2.4	2.08	1.51	1.44	1.31
37.5	104	90.2	45.1	9.02	5.20	4.51	3.0	2.60	1.88	1.80	1.64
45	125	108	54.1	10.8	6.25	5.41	3.6	3.12	2.26	2.17	1.97
50	139	120	60.1	12.0	6.94	6.01	4.0	3.47	2.51	2.41	2.19
75	208	180	90.2	18.0	10.4	9.02	6.0	5.21	3.77	3.61	3.28
100	278	241	120	24.1	13.9	12.0	8.0	6.94	5.02	4.81	4.37
112.5	312	271	135	27.1	15.6	13.5	9.0	7.81	5.65	5.41	4.92
150	416	361	180	36.1	20.8	18.0	12.0	1.04	7.53	7.22	6.56
200	555	481	241	48.1	27.8	24.1	16.0	13.9	10.0	9.62	8.75
225	625	541	271	54.1	31.2	27.1	18.0	15.6	11.3	10.8	9.84
300	833	722	361	72.2	41.6	36.1	24.1	20.8	15.1	14.4	13.1
450	1249	1083	541	108	62.5	54.1	36.1	31.2	22.6	21.7	19.7
500	1388	1203	601	120	69.3	60.1	40.1	34.7	25.1	24.1	21.9
600	1665	1443	722	144	83.3	72.2	48.1	41.6	30.1	28.9	26.2
750	2082	1804	902	180	104	90.2	60.1	52.0	37.7	36.1	32.8

APPLICATION OF THERMAL CIRCUIT BREAKERS AND FUSIBLE DEVICES

THE PRIMARY FUNCTION OF AN OVERCURRENT PROTECTIVE DEVICE for conductors is to guard the conductor against overheating. The current-carrying ability of a conductor is limited by the temperature at which its insulation may be operated safely. The operating temperature is the sum of the ambient temperature plus the temperature rise due to loss in the conductor. To limit this total temperature, the National Electrical Code requires that conductor be derated at ambient temperatures above 30°C, the amount of derating depending upon the type of insulation used.

The ideal overcurrent protective device is one which likewise must be derated at elevated ambient temperatures and one in which the derating closely parallels the derating of the protected conductor. This applies to fuses as well as to circuit breakers.

Operating on the thermal principle, all thermal breakers are affected by changes in ambient temperature, thereby taking into account the decrease in conductor capacity at elevated ambient temperatures.

IN APPLYING OVERCURRENT DEVICES, either circuit breakers or fuses which depend upon heat for their operation, it must be remembered that such devices are calibrated at an ambient temperature specified by the Underwriters' Laboratories. In the case of circuit breakers this is 25°C (77°F). For other ambient temperatures the current rating of thermal breakers varies from the rating at 25°C ambient.

While thermal circuit breakers are tested by the Underwriters' Laboratories at 25°C ambient, and are tested individually and in the open they are seldom actually applied in this manner. They are usually mounted in individual enclosures, combination linestarters, panelboards, or enclosed switchboards. In applying enclosed protective devices of the thermal type, consideration must be given not only to the ambient temperature in which the enclosure is mounted, but also to the temperature within the enclosure itself.

It is impossible to provide a simple derating factor that will cover accurately the various enclosures. The increase in temperature inside the enclosure is caused by several factors—such as the losses in the device itself, losses in other apparatus and conductors within the enclosure. In the case of a panelboard, variables are introduced by the number of circuits, gutter space and number of conductors in the cabinet.

WHEN THE CONDUCTORS ARE SELECTED, good engineering practice dictates that the capacity of the conductor be at least 125% of full load current. The National Electrical Code requires this for individual motor branch circuits and for other branch circuits supplying continuous loads.

APPLICATION—The panelboard standards (42-82) of the National Electrical Manufacturers Association recommend that circuits be loaded to not exceed 70% of the protective device rating. This means that in panelboards the conductor and overcurrent protective device rating should be not less than 142% of the load. For fusible safety switches the standards of the National Electrical Manufacturers Association recommend that on continuous duty circuits the switch should be selected to have a current rating at least 150% of the load. If the practices recommended above are followed, Westinghouse thermal breakers will in normal applications operate satisfactorily in an enclosure with normal outside ambient temperatures, provided a breaker is selected having a rating equal to that of the conductor. The factor of 125% in the case of individually enclosed breakers or 142% in the case of panelboards will in general take care of the difference in ambient temperatures inside and outside the enclosure. Therefore, enclosed breakers should be applied using these factors and the ambient temperatures outside the enclosure. Enclosed thermal protective devices should not be mounted in direct sun or other exceptionally warm locations where additional heat will be absorbed into the enclosure, unless special consideration is given to derating.

UNDERWRITERS' LABORATORIES REQUIREMENTS

A summary of the Underwriters' requirements and tests under which standard breakers are listed follows:

1. The tripping mechanism shall be enclosed to prevent tampering.

2. The mechanism shall trip free of the handle on overload.

3. The breaker must trip on 200 per cent rating within a specified time.

4. The breaker must trip on 125 per cent rating within a specified time.

5. Overload tests:
   The breaker must operate satisfactorily 50 times on 600 per cent rating at 50 per cent power factor and rated voltage (150 amperes is the minimum current permissible on this test).

6. All breakers rated 50 amperes, 250 volts a-c, and less, must operate four times at two-minute intervals without tripping or welding of contacts on a tungsten lamp load equal to the rating of the breaker.

7. The breaker must carry 100 per cent load continuously, and must not exceed specified temperature limits.

8. Endurance test:

AMPERE RATING	OPERATIONS FULL LOAD	OPERATIONS NO LOAD	OPERATIONS PER MINUTE
0–100	6000	4000	6
101–225	4000	4000	5
226–600	1000	5000	4

9. A recalibration test at 200 per cent and 125 per cent as outlined above.

10. Short-circuit test:
    The breaker is given a minimum of 3 short-circuit tests per pole on the following circuits:

BREAKER RATING			TEST CIRCUIT	
VOLTS	AMPERES	VOLTS	AMPERES	A-C P.F.
250 & under	100 & under	Rated	5,000	45 to 50%
250 & under	Over 100	Rated	10,000	45 to 50%
Over 250	All	Rated	10,000	45 to 50%

D-c tests same as a-c except on noninductive load.

11. Tripping time at 200 per cent of full load rating after short-circuit test.

12. Insulation test:
    1000 volts plus twice rated voltage between live parts and ground—between poles with the breaker closed and between line and load terminals with the breaker open.

NATIONAL ELECTRICAL CODE APPLICATION DATA

TO DETERMINE SWITCH, FUSE OR WIRE SIZE for motor circuits, determine terminal ampere rating of motor either (a) from motor nameplate or (b) from tables on this page.

MOTOR TERMINAL AMPERES AT FULL LOAD†

Average Values for All Speeds and Frequencies

HP.	SINGLE-PHASE A-C			POLYPHASE A-C (INDUCTION TYPE) SQUIRREL-CAGE AND WOUND ROTOR								DIRECT CURRENT		
				110 VOLTS		220 VOLTS§		440 VOLTS		550 VOLTS				
	115 VOLTS	230 VOLTS#	440 VOLTS	3-PHASE	2-PHASE 4-WIRE‡	3-PHASE	2-PHASE 4-WIRE‡	3-PHASE	2-PHASE 4-WIRE‡	3-PHASE	2-PHASE 4-WIRE‡	115 VOLTS	230 VOLTS	550 VOLTS
⅛*	3.2	1.6	...	....	....	....	....	....	....	....	....	....	....	....
¼*	4.6	2.3	...	....	....	....	....	....	....	....	....	....	....	....
½*	7.4	3.7	...	4	4	2	2	1	1	.8	.8	4.6	2.3	....
¾*	10.2	5.1	...	5.6	4.8	2.8	2.4	1.4	1.2	1.1	1	6.6	3.3	1.4
1*	13	6.5	...	7	6.4	3.5	3.2	1.8	1.6	1.4	1.3	8.6	4.3	1.8
1½	18.4	9.2	...	10	8.8	5	4.4	2.5	2.2	2	1.8	12.6	6.3	2.6
2	24	12	...	13	11.2	6.5	5.6	3.3	2.8	2.6	2.2	16.4	8.2	3.4
3	34	17	...	....	....	9	8	4.5	4	4	3.2	24	12	5
5	56	28	...	....	....	15	13	7.5	7	6	6	40	20	8.3
7½	80	40	21	....	....	22	19	11	9	9	8	58	29	12
10	100	50	26	....	....	27	24	14	12	11	10	76	38	16
15	....	....	...	....	....	40	34	20	17	16	14	112	56	23
20	....	....	...	....	....	52	45	26	23	21	18	148	74	31
25	....	....	...	....	....	64	55	32	28	26	22	184	92	38
30	....	....	...	....	....	78	67	39	34	31	27	220	110	46
40	....	....	...	....	....	104	88	52	44	41	35	292	146	61
50	....	....	...	....	....	125	108	63	54	50	43	360	180	75
60	....	....	...	....	....	150	129	75	65	60	52	430	215	90
75	....	....	...	....	....	185	158	93	79	74	63	536	268	111

* For running protection of motors of 1 horsepower or less, see Section 4322 N.E.C.
‡ Current in common conductor of 2-phase, 3-wire system will be 1.41 times value given.
§ For full-load currents of 208 and 200-volt motors, increase the corresponding 220-volt motor full load current by 6 and 10 percent respectively.
# For full-load currents of 208 and 200-volt motors, increase the corresponding 230-volt motor full load current by 10 and 15 percent respectively.
† These values of full-load current are for motors running at speeds usual for belted motors and motors with normal torque characteristics. Motors built for especially low speeds or high torques may require more running current, in which case the nameplate current rating should be used.

ALLOWABLE CURRENT-CARRYING CAPACITIES OF CONDUCTORS IN AMPERES

Not More Than Three Conductors in Raceway or Cable
(Based on Room Temperature of 30° C, 86° F)

SIZE AWG MCM	CM TABLE 10 NEC	(1) RUBBER TYPES R, RW RU-14-6 T&TW- (Thermoplastic) 14-4/0	(2) RUBBER TYPE RH	(3) TYPES TA, V & AVB	(4) TYPES AVA AVL	(5) TYPES AI-14-8 & AIA	(6) TYPES A-14-8 & AA
14	4,107	15	15	25	30	30	30
12	6,530	20	20	30	35	40	40
10	10,380	30	30	40	45	50	55
8	16,510	40	45	50	60	65	70
6	26,250	55	65	70	80	85	95
4	41,740	70	85	90	105	115	120
3	52,640	80	100	105	120	130	145
2	66,370	95	115	120	135	145	165
1	83,690	110	130	140	160	170	190
0	105,500	125	150	155	190	200	225
00	133,100	145	175	185	215	230	250
000	167,800	165	200	210	245	265	285
0000	211,600	195	230	235	275	310	340
250	250,000	215	255	270	315	335	...
300	300,000	240	285	300	345	380	...
350	350,000	260	310	325	390	420	...
400	400,000	280	335	360	420	450	...
500	500,000	320	380	405	470	500	...
600	600,000	355	420	455	525	545	...
700	700,000	385	460	490	560	600	...
750	750,000	400	475	500	580	620	...
800	800,000	410	490	515	600	640	...
900	900,000	435	520	555	...	...	...
1,000	1,000,000	455	545	585	680	730	...
1,250	1,250,000	495	590	645	...	...	...
1,500	1,500,000	520	625	700	785	...	...
1,750	1,750,000	545	650	735	...	...	...
2,000	2,000,000	560	665	775	840	...	...

MORE THAN THREE CONDUCTORS IN A RACEWAY OR CABLE. The table gives the allowable current-carrying capacity for not more than three conductors in a raceway or cable. If the number of conductors in a raceway or cable is from 4 to 6, the allowable current-carrying capacity of each conductor shall be reduced to 80 per cent of the value in the table. If the number of conductors in a raceway or cable is from 7 to 9, the allowable current-carrying capacity of each conductor shall be reduced to 70 per cent of the values in the table.

CORRECTION FACTOR FOR ROOM TEMPERATURES OVER 30°C

DEGREES		COLUMN NUMBER*					
C	F	(1)	(2)	(3)	(4)	(5)	(6)
40	104	.82	.88	.90	.94	.95	...
45	113	.71	.82	.85	.90	.92	...
50	122	.58	.75	.80	.87	.89	...
55	131	.41	.67	.74	.83	.86	...
60	140	...	.58	.67	.79	.83	.91
70	158	...	.35	.52	.71	.76	.87
75	167	...	...	.43	.66	.72	.86
80	176	...	...	.30	.61	.69	.84
90	194	...	...	...	.50	.61	.80
100	212	...	...	...	...	.51	.77
120	248	...	...	...	...	...	.69
140	284	...	...	...	...	...	.59

* Column numbers refer to column numbers in Wire Table (i. e., Col. 2 is for Type RH Wire.)

NATIONAL ELECTRICAL CODE APPLICATION DATA

TABLE FOR SELECTING SWITCH, CIRCUIT BREAKER, WIRE AND FUSE SIZES FOR MOTOR BRANCH CIRCUITS

(Adapted from 1951 N.E. Code Chapter 10. Obtain proper terminal ampere rating of motor from horsepower.)

FULL LOAD CURRENT RATING OF MOTOR		TO SELECT PROPER SIZE FUSE, SAFETY SWITCH OR CIRCUIT BREAKER FOR MOTOR CIRCUIT									WIRE SIZE	
		FUSIBLE SWITCH OR ABI BREAKER SIZE FOR CIRCUIT PROTECTION COLUMNS 4, 6 AND 8 RECOMMENDED RATING OF BRANCH CIRCUIT BREAKER AMPERES BASED ON 20 SECONDS ACCELERATING TIME†										
		SINGLE PHASE, SQUIRREL-CAGE AND SYNCHRONOUS FULL-VOLTAGE, REACTOR AND RESISTOR STARTING			SQUIRREL-CAGE AND SYNCHRONOUS AUTO-TRANSFORMER STARTING, HIGH-REACTANCE SQUIRREL-CAGE WITHOUT CODE MARKING			A-C WOUND ROTOR AND DIRECT CURRENT			MINIMUM SIZE CONDUCTOR IN RACEWAYS AWG AND MCM	
1	2	3	4		5	6		7	8		9	10
AMP	NON-FUSIBLE SWITCH SIZE AMP	MAX. ALLOWABLE RATING OF BRANCH CIRCUIT FUSES AMP	FUSIBLE SWITCH AMP	CIRCUIT BREAKER AMP	MAX. ALLOWABLE RATING OF BRANCH CIRCUIT FUSES AMP	FUSIBLE SWITCH AMP	CIRCUIT BREAKER AMP	MAX. ALLOWABLE RATING OF BRANCH CIRCUIT FUSES AMP	FUSIBLE SWITCH AMP	CIRCUIT BREAKER AMP	TYPES R, RW, RU, T, AND TW	TYPE RH
1	Non-fusible Safety Switches for Motor Circuits should be applied according to the 1947 National Electrical Code, Sections 4401 to 4411 inclusive, or to a later edition	15	30	15	15	30	15	15	30	15	14	14
2		15	30	15	15	30	15	15	30	15	14	14
3		15	30	15	15	30	15	15	30	15	14	14
4		15	30	15	15	30	15	15	30	15	14	14
5		15	30	15	15	30	15	15	30	15	14	14
6		20	30	15	15	30	15	15	30	15	14	14
7		25	30	15	20	30	15	15	30	15	14	14
8		25	30	20	20	30	20	15	30	15	14	14
9		30	30	20	25	30	20	15	30	15	14	14
10		30	30	25	25	30	20	15	30	20	14	14
11		35	60	25	30	30	25	20	30	20	14	14
12		40	60	25	30	30	25	20	30	20	14	14
13		40	60	35	35	60	35	20	30	25	12	12
14		45	60	35	35	60	35	25	30	25	12	12
15		45	60	35	40	60	35	25	30	25	12	12
16		50	60	35	40	60	35	25	30	25	12	12
17		60	60	50	45	60	35	30	30	35	10	10
18		60	60	50	45	60	35	30	30	35	10	10
19		60	60	50	50	60	35	30	30	35	10	10
20		60	60	50	50	60	35	30	30	35	10	10
22		70	100	50	60	60	50	35	60	35	10	10
24		80	100	50	60	60	50	40	60	50	10	10
26		80	100	50	70	100	50	40	60	50	8	10
28		90	100	50‡	70	100	50	45	60	50	8	10
30		90	100	50‡	70	100	50	45	60	50	8	8
32		100	100	70	70	100	50	50	60	50	8	8
34		110	200	70	70	100	70	60	60	70	6	8
36		110	200	70	80	100	70	60	60	70	6	8
38		125	200	70	80	100	70	60	60	70	6	6
40		125	200	70	80	100	70	60	60	70	6	6
42		125	200	70	90	100	70	70	100	70	6	6
44		125	200	70	90	100	70	70	100	70	6	6
46		150	200	70	100	100	70	70	100	70	4	6
48		150	200	90	100	100	90	80	100	90	4	6
50		150	200	90	100	100	90	80	100	90	4	6
52		175	200	90	110	200	90	80	100	90	4	6
54		175	200	90	110	200	90	90	100	90	4	4
56		175	200	90	120	200	90	90	100	90	4	4
58		175	200	90	120	200	90	90	100	90	3	4
60		200	200	90	120	200	90	90	100	90	3	4
62		200	200	100	125	200	100	100	100	100	3	4
64		200	200	100	150	200	100	100	100	100	3	4
66		200	200	100	150	200	100	100	100	100	2	4
68		225	400	125	150	200	125	110	200	125	2	4
70		225	400	125	150	200	125	110	200	125	2	3
72		225	400	125	150	200	125	110	200	125	2	3
74		225	400	125	150	200	125	125	200	125	2	3
76		250	400	125	175	200	125	125	200	125	2	3
78		250	400	125	175	200	125	125	200	125	1	3

† Applications having unusually long starting period or frequent starting refer to Works for proper size breaker. High or low ambients affect rating of breakers.

‡ Does not allow more than 8 seconds starting time.

NATIONAL ELECTRICAL CODE APPLICATION DATA

TABLE FOR SELECTING SWITCH, CIRCUIT BREAKER, WIRE AND FUSE SIZES FOR MOTOR BRANCH CIRCUITS

(Adapted from 1951 N.E. Code Chapter 10. Obtain proper terminal ampere rating of motor from horsepower.)

FULL LOAD CURRENT RATING OF MOTOR		TO SELECT PROPER SIZE FUSE, SAFETY SWITCH OR CIRCUIT BREAKER FOR MOTOR CIRCUIT									WIRE SIZE	
		FUSIBLE SWITCH OR ABI BREAKER SIZE FOR CIRCUIT PROTECTION COLUMNS 4, 6 AND 8 RECOMMENDED RATING OF BRANCH CIRCUIT BREAKER AMPERES BASED ON 20 SECONDS ACCELERATING TIME†										
		SINGLE PHASE, SQUIRREL-CAGE AND SYNCHRONOUS FULL-VOLTAGE, REACTOR AND RESISTOR STARTING.			SQUIRREL-CAGE AND SYNCHRONOUS AUTO-TRANSFORMER STARTING, HIGH-REACTANCE SQUIRREL-CAGE			A-C WOUND ROTOR AND DIRECT CURRENT			MINIMUM SIZE CONDUCTOR IN RACEWAYS AWG AND MCM	
1	2	3	4		5	6		7	8		9	10
AMP	NON-FUSIBLE SWITCH SIZE AMP	MAX. ALLOWABLE RATING OF BRANCH CIRCUIT FUSES AMP	FUSIBLE SWITCH AMP	CIRCUIT BREAKER AMP	MAX. ALLOWABLE RATING OF BRANCH CIRCUIT FUSES AMP	FUSIBLE SWITCH AMP	CIRCUIT BREAKER AMP	MAX. ALLOWABLE RATING OF BRANCH CIRCUIT FUSES AMP	FUSIBLE SWITCH AMP	CIRCUIT BREAKER AMP	TYPES R, RW, RU, T, AND TW	TYPE RH
80	Non-fusible Safety Switches for Motor Circuits should be applied according to the 1947 National Electrical Code, Sections 4401 to 4411 inclusive, or to a later edition.	250	400	125	175	200	125	125	200	125	1	3
82		250	400	125	175	200	125	125	200	125	1	2
84		250	400	150	175	200	150	150	200	150	1	2
86		300	400	150	175	200	150	150	200	150	1	2
88		300	400	150	200	200	150	150	200	150	1	2
90		300	400	150	200	200	150	150	200	150	0	2
92		300	400	150	200	200	150	150	200	150	0	2
94		300	400	150	200	200	150	150	200	150	0	1
96		300	400	150	200	200	150	150	200	150	0	1
98		300	400	150	200	200	150	150	200	150	0	1
100		300	400	150	200	200	150	150	200	150	0	1
105		350	400	175	225	400	175	175	200	175	00	1
110		350	400	175	225	400	175	175	200	175	00	0
115		350	400	175	250	400	175	175	200	175	00	0
120		400	400	200	250	400	200	200	200	200	000	0
125		400	400	200	250	400	200	200	200	200	000	00
130		400	400	200	300	400	200	200	200	200	000	00
135		450	600	200	300	400	200	225	400	200	0000	00
140		450	600	225	300	400	225	225	400	225	0000	00
145		450	600	225	300	400	225	225	400	225	0000	000
150		450	600	225	300	400	225	225	400	225	0000	000
155		500	600	275	350	400	275	250	400	275	0000	000
160		500	600	275	350	400	275	250	400	275	250	000
165		500	600	275	350	400	275	250	400	275	250	0000
170		500	600	275	350	400	275	300	400	275	250	0000
175		600	600	275	350	400	275	300	400	275	300	0000
180		600	600	275	400	400	275	300	400	275	300	0000
185		600	600	300	400	400	300	300	400	300	300	0000
190		600	600	300	400	400	300	300	400	300	300	250
195		600	600	300	400	400	300	300	400	300	350	250
200		600	600	300	400	400	300	300	400	300	350	250
210					450	600	325	350	400	325	400	300
220					450	600	325	350	400	325	400	300
230					500	600	400	350	400	400	500	300
240					500	600	400	400	400	400	500	350
250					500	600	400	400	400	400	500	350
260					600	600	400	400	400	400	600	400
270					600	600	450	450	600	450	600	400
280					600	600	450	450	600	450	600	500
290					600	600	450	450	600	450	700	500
300					600	600	450	450	600	450	700	500
320								500	600	500	750	600
340								600	600	550	900	600
360								600	600	550	1000	700
380								600	600	600	1250	750
400								600	600	600	1500	900
420											1750	1000
440											2000	1250
460											....	1250
480											....	1500
500											....	1500

† Applications having unusually long starting period or frequent starting refer to Works for proper size breaker. High or low ambients affect rating of breakers.

REACTIVE POWER CONSUMPTION AND EFFICIENCIES OF INDUCTION MOTORS

(Values are approximate averages and apply to squirrel cage as well as wound-rotor types)

Will be found useful in the study of power-factor problems, and the application of capacitors to motors and motor circuits.

HP	Speed R.P.M.	Volts	Efficiency Full Load	Efficiency Half Load	Reactive Kv-a. Full Load	Reactive Kv-a. No Load
¼	1800	220–550	.52	.61	0.25	.24
	1200	220–550	.50	.60	0.27	.25
½	1200	220–550	.55	.68	0.60	.58
	900	220–550	.46	.65	0.90	.90
¾	1800	220–550	.77	.74	.58	.50
	1200	220–550	.75	.72	.71	.65
	900	220–550	.73	.65	1.0	.85
1	3600	220–550	.80	.77	.55	.45
	1800	220–550	.80	.77	.68	.55
	1200	220–550	.80	.76	.83	.74
	900	220–550	.75	.69	1.0	.82
1½	3600	220–550	.81	.67	.85	.65
	1800	220–550	.81	.67	.90	.65
	1200	220–550	.81	.61	1.1	1.0
	900	220–550	.76	.46	1.5	1.4
2	3600	220–550	.82	.82	1.1	.90
	1800	220–550	.82	.82	1.1	.82
	1200	220–550	.82	.80	1.3	1.1
	900	220–550	.78	.73	2.0	1.8
3	3600	220–550	.85	.82	1.4	1.15
	1800	220–550	.85	.82	1.4	1.15
	1200	220–550	.85	.82	1.8	1.65
	900	220–550	.82	.80	2.6	2.0
5	3600	220–550	.84	.81	2.1	1.5
	1800	220–550	.85	.83	2.2	1.6
	1200	220–550	.85	.82	2.6	2.4
	900	220–550	.85	.81	3.6	3.1
	720	220–550	.82	.80	3.9	3.0
	600	220–550	.80	.78	4.6	4.3
7½	3600	220–550	.87	.84	3.3	2.2
	1800	220–550	.87	.84	3.1	2.2
	1200	220–550	.87	.84	4.2	4.0
	900	220–550	.87	.84	5.6	4.0
	720	220–550	.86	.84	6.4	5.4
	600	220–550	.84	.81	6.7	5.6
10	3600	220–550	.87	.85	3.6	2.8
	1800	220–550	.87	.85	4.5	3.2
	1200	220–550	.87	.85	4.9	3.8
	900	220–550	.87	.85	6.0	5.0
	720	220–550	.87	.85	6.5	5.3
	600	220–550	.86	.84	8.0	6.8
15	3600	220–550	.90	.87	5.8	3.4
	1800	220–550	.90	.88	6.0	4.4
	1200	220–550	.89	.87	7.4	5.9
	900	220–550	.88	.86	8.5	7.3
	720	220–550	.87	.85	8.8	6.9
	600	220–550	.87	.85	12.5	10.5
20	3600	220–550	.90	.87	8.0	5.6
	1800	220–550	.90	.88	8.6	7.2
	1200	220–550	.89	.87	10.0	8.4
	1200	2200	.87	.85	12.1	10.0
	900	220–550	.88	.86	10.8	8.2
	900	2200	.86	.84	14.7	13.2
	720	220–550	.87	.86	11.7	9.0
	600	220–550	.86	.85	14.2	11.0
25	3600	220–550	.89	.88	9.3	6.0
	1800	220–550	.89	.88	10.0	7.2
	1200	220–550	.89	.88	11.8	10.5
	1200	2200	.88	.87	13.0	11.0
	900	220–550	.89	.88	11.3	10.0
	900	2200	.88	.87	16.0	14.2
	720	220–550	.86	.86	14.8	12.1
	600	220–550	.85	.85	15.9	13.2
	600	2200	.84	.83	24.	21.
30	1800	220–550	.90	.90	12.5	10.0
	1800	2200	.89	.89	17.3	16.5
	1200	220–550	.90	.90	14.2	12.5
	1200	2200	.89	.89	16.7	13.5
	900	220–550	.89	.88	16.0	11.5
	900	2200	.88	.87	16.7	12.0
	720	220–550	.87	.87	16.0	11.5
	720	2200	.86	.86	20.2	16.5
	600	220–550	.86	.86	20.0	12.5
	600	2200	.85	.85	24.4	22.0

Courtesy of Products Protection Corp., manufacturers of Permittors.

USEFUL INFORMATION

MOTOR WIRING AND FUSING DATA

Adapted from 1951 National Electrical Code

H.P. of Motor	Current Rating Amperes	Minimum Size Wire AWG or MCM		Conduit Size		Maximum Running Fuse Amperes	Current Rating Amperes	Minimum Size Wire AWG or MCM		Conduit Size		Maximum Running Fuse Amperes
		Type R or T	Type RH	Type R or T	Type RH			Type R or T	Type RH	Type R or T	Type RH	
	Single Phase A.C.—115 Volts						**Single Phase A.C.—230 Volts**					
½	7.4	14	14	½	½	10	3.7	14	14	½	½	6
¾	10.2	14	14	½	½	15	5.1	14	14	½	½	8
1	13	12	12	½	½	20	6.5	14	14	½	½	10
1½	18.4	10	10	¾	¾	25	9.2	14	14	½	½	12
2	24	10	10	¾	¾	30	12	14	14	½	½	15
3	34	6	8	1	¾	45	17	10	10	¾	¾	25
5	56	4	4	1¼	1¼	70	28	8	8	¾	¾	35
7½	80	1	3	1½	1¼	100	40	6	6	1	1	50
10	100	1/0	1	1½	1½	125	50	4	6	1¼	1	60
	Three Phase Induction Motor—220 Volts						**Three Phase Induction Motor—440 Volts**					
½	2	14	14	½	½	3	1	14	14	½	½	2
¾	2.8	14	14	½	½	4	1.4	14	14	½	½	2
1	3.5	14	14	½	½	4	1.8	14	14	½	½	3
1½	5	14	14	½	½	8	2.5	14	14	½	½	4
2	6.5	14	14	½	½	8	3.3	14	14	½	½	4
3	9	14	14	½	½	12	4.5	14	14	½	½	6
5	15	12	12	½	½	20	7.5	14	14	½	½	10
7½	22	10	10	¾	¾	30	11	14	14	½	½	15
10	27	8	8	¾	¾	35	14	12	12	½	½	20
15	40	6	6	1	1	50	20	10	10	¾	¾	25
20	52	4	6	1¼	1	70	26	8	8	¾	¾	35
25	64	3	4	1¼	1¼	80	32	8	8	¾	¾	40
30	78	1	3	1½	1¼	100	39	6	6	1	1	50
40	104	2/0	1	2	1½	125	52	4	6	1¼	1	70
50	125	3/0	2/0	2	2	175	63	3	4	1¼	1¼	80
60	150	4/0	3/0	2½	2	200	75	2	3	1¼	1¼	100
75	185	300	4/0	2½	2½	250	93	1/0	1	2	1½	125
100	246	500	350	3	3	300	123	3/0	2/0	2	2	150
125	310	750	600	3½	3½	400	155	4/0	3/0	2½	2	200
150	360	1000	700	4	3½	450	180	300	4/0	2½	2½	225
200	480	-------	1500	------	5	600	240	500	350	3	3	300
	D.C.—115 Volts						**D.C.—230 Volts**					
½	4.6	14	14	½	½	6	2.3	14	14	½	½	3
¾	6.6	14	14	½	½	10	3.3	14	14	½	½	4
1	8.6	14	14	½	½	12	4.3	14	14	½	½	6
1½	12.6	12	12	½	½	15	6.3	14	14	½	½	8
2	16.4	10	10	¾	¾	20	8.2	14	14	½	½	12
3	24	10	10	¾	¾	30	12	14	14	½	½	15
5	40	6	6	1	1	50	20	10	10	¾	¾	25
7½	58	3	4	1¼	1¼	70	29	8	8	¾	¾	40
10	76	2	3	1¼	1¼	100	38	6	6	1	1	50
15	112	2/0	1/0	2	1½	150	56	4	4	1¼	1¼	70
20	148	4/0	3/0	2	2	200	74	2	3	1¼	1¼	90
25	184	300	4/0	2½	2	250	92	1/0	2	1½	1¼	125
30	220	400	300	3	2½	300	110	2/0	1/0	2	1½	150
40	292	700	500	3½	3	400	146	4/0	3/0	2	2	200
50	360	1000	700	4	3½	450	180	300	4/0	2½	2	225

Conduit size based on three conductors in one conduit for three phase A.C. motors and on two conductors in one conduit for direct current and single phase A.C. motors.

POWER-FACTOR IMPROVEMENT

The figures below × kilowatt input = kv-a. required to improve from one power-factor to another.

Original Power-factor %	Desired Power-factor 100%	95%	90%	85%	80%
20	4.899	4.570	4.415	4.279	4.149
21	4.656	4.327	4.171	4.036	3.906
22	4.433	4.104	3.949	3.813	3.683
23	4.231	3.902	3.747	3.611	3.481
24	4.045	3.716	3.561	3.425	3.295
25	3.873	3.544	3.389	3.253	3.123
26	3.714	3.385	3.229	3.094	2.964
27	3.566	3.238	3.082	2.946	2.816
28	3.429	3.100	2.944	2.809	2.679
29	3.300	2.971	2.816	2.680	2.550
30	3.180	2.851	2.696	2.560	2.430
31	3.067	2.738	2.583	2.447	2.317
32	2.961	2.632	2.476	2.341	2.211
33	2.861	2.532	2.376	2.241	2.111
34	2.766	2.437	2.282	2.146	2.016
35	2.676	2.347	2.192	2.056	1.926
36	2.592	2.263	2.107	1.972	1.842
37	2.511	2.182	2.027	1.891	1.761
38	2.434	2.105	1.950	1.814	1.684
39	2.361	2.032	1.877	1.741	1.611
40	2.291	1.963	1.807	1.671	1.541
41	2.225	1.896	1.740	1.605	1.475
42	2.161	1.832	1.676	1.541	1.410
43	2.100	1.771	1.615	1.480	1.349
44	2.041	1.712	1.557	1.421	1.291
45	1.985	1.656	1.501	1.365	1.235
46	1.930	1.602	1.446	1.310	1.180
47	1.877	1.548	1.392	1.257	1.128
48	1.828	1.499	1.343	1.208	1.077
49	1.779	1.450	1.295	1.159	1.029
50	1.732	1.403	1.248	1.112	.982
51	1.687	1.358	1.202	1.067	.936
52	1.643	1.314	1.158	1.023	.892
53	1.600	1.271	1.116	.980	.850
54	1.559	1.230	1.074	.939	.808
55	1.518	1.189	1.034	.898	.768
56	1.497	1.150	.995	.859	.729
57	1.442	1.113	.957	.822	.691
58	1.405	1.076	.920	.785	.654
59	1.368	1.040	.884	.748	.618
60	1.333	1.004	.849	.713	.583
61	1.299	.970	.815	.679	.549
62	1.266	.937	.781	.646	.515
63	1.233	.904	.748	.613	.482
64	1.201	.872	.716	.581	.450
65	1.169	.840	.685	.549	.419
66	1.138	.810	.654	.518	.388
67	1.108	.779	.624	.488	.358
68	1.078	.750	.594	.458	.328
69	1.049	.720	.565	.429	.298
70	1.020	.691	.536	.400	.270
71	.992	.663	.507	.372	.241
72	.964	.635	.480	.344	.214
73	.936	.608	.452	.316	.186
74	.909	.580	.425	.289	.158
75	.882	.553	.398	.262	.132
76	.855	.527	.371	.235	.105
77	.829	.500	.344	.209	.078
78	.802	.474	.318	.182	.052
79	.776	.447	.292	.156	.026
80	.750	.421	.266	.130	
81	.724	.395	.240	.104	
82	.698	.369	.214	.078	
83	.672	.343	.188	.052	
84	.646	.317	.162	.026	
85	.620	.291	.136		
86	.593	.265	.109		
87	.567	.238	.082		
88	.540	.211	.056		
89	.512	.183	.028		
90	.484	.155			
91	.456	.127			
92	.426	.097			
93	.395	.066			
94	.363	.034			
95	.329				
96	.292				
97	.251				
98	.203				
99	.142				

Example: Total kw. input of plant from watt-meter reading 100 kw. at a power-factor of 60 per cent. The kv-a. of the capacitor necessary to raise the power-factor to 80 per cent is found by multiplying the 100 kw. by the factor found in the table which is 0.58. 100 kw. × 0.58 = 58 kv-a. in capacitor capacity. The nearest standard size, of course, is 60 kv-a. and this should be recommended.

RECOMMENDED MAXIMUM CAPACITOR RATING WHEN CAPACITOR AND INDUCTION MOTOR ARE SWITCHED AS A UNIT*

Motor HP Rating	Motor Speed, Rpm: 3600	1800	1200	900	720	600
	Capacitor Rating, Kvar					
10	2.5	4	4	5	5	7.5
15	2.5	5	5	7.5	7.5	10
20	5	5	5	7.5	10	12.5
25	5	7.5	7.5	10	10	15
30	7.5	10	10	10	12.5	15
40	10	10	10	12.5	15	17.5
50	12.5	12.5	12.5	15	20	22.5
60	15	15	15	17.5	22.5	25
75	17.5	17.5	17.5	20	27.5	30
100	22.5	22.5	22.5	25	35	37.5
125	25	27.5	27.5	30	40	47.5
150	32.5	35	35	37.5	47.5	55
200	42.5	42.5	42.5	45	60	67.5

*Representative data for 3-phase, 60-cycle, general-purpose, open-type induction motors. The motor full-load power factor with these capacitor ratings will range from 95 to 98 per cent. The kvar values are selected to avoid overvoltage from motor self-excitation and to prevent excessive transient torque on the motor.

If you have problems requiring special engineering, consult our nearest office. We welcome all opportunities to be helpful.

DATA FOR ELECTRIC HEATING CALCULATIONS

Correct application of the heater is just as important as correct selection, and depends mostly upon elimination of heat losses through radiation, convection and conduction. One of the important advantages of electric heat is that it can be applied almost exactly where it is required, with little heat lost in transmission. Radiation and convection losses from the material, machine or container can be reduced by efficient insulation of heated parts. Here again, the inherently simple construction of electric heaters facilitates application of the insulating material. Heat losses can also be calculated easily and accurately, and the applicable data is included for each type of amterial as follows:

Volume of cylindrical tank = Radius x Radius x 3.1416 x Length
1 gallon = 231 cu. in.
1 gallon of water = 8⅓ lbs.
1 cubic foot of water = 62.5 lbs.
1 kilowatt hour will raise temperature of 4 gallons of water 100° F.
1 kilowatt hour = 3412 B.T.U.

LIQUID HEATING

The most efficient method of heating any liquid is by direct immersion, since the heat is then applied directly to the material and losses can be held to a minimum. However, when obstructions within the container, nature of liquid or other special conditions prevent direct immersion, conduction type heaters may be clamped to the bottom and sides of the tank. Obviously, the heat losses of clamp-on applications are greater and such installations usually require a greater total applied wattage than immersion applications.

Characteristics and Heat Requirements of Common Liquids

Liquid	Specific Heat	Weight — Lbs. per Gal.	Weight — Lbs. per Cu. Ft.	Watt hours per Lb. per Deg. F. Rise
Alcohol	.65	7.4	55	.19
Glycerin	.58	10.6	79	.170
Oil (Machine	.40	7.8	58	.117
Paraffin	.71	7.5	56	.208
Petroleum	.50	7.5	57	.149
Water	1.0	8.3	63	.293

To evaporate one pound of water at 212° F. requires 283 watt hours.

Total watthours or watts required to heat up in one hour equals:—Total weight in lbs. x degrees F. rise x watt hours per lb. per degree F. rise.

If two hours can be allowed use half this value. If only one half hour can be allowed, use double this value, etc.

EXAMPLE:—10 gallons of alcohol to be heated from 70° F. to 120° F. in one hour: 10 (gallons) x 7.4 (weight per gallon) x 50 (° F. rise) x .19 (watthours per pound per ° F.) equals 703 watts for heating the liquid.

To the watts required for heating the liquid should be added radiation losses as calculated below.

If objects are dipped into the liquid, determine the total weight of the material dipped per hour, its temperature rise, and add the heat absorption of these objects calculated on the basis of their weight per table No. 4.

Radiation Losses From Closed Tanks

Assuming three inches of good insulation on all surfaces of tank, the radiation losses will be .08 watts per degree Fahrenheit per square foot of exposed tank surface. (See table 7 for heat losses through insulated walls and savings effected by good heat insulation.

FORMULA:—Temperature Differential between tank and room in degrees F. x square feet of tank area, x .08 quals watts radiation.

Add this to total watts required to heat material as calculated above.

Complete Wattage Requirements for liquid Heating Applications include: Watts required to heat liquid, plus watts required to compensate for radiation from sides of tank and surface if open tank, plus Watts required to compensate for losses due to heat absorbed by any material dipped in the liquid, plus watts required to compensate for heat absorbed by container.

AIR HEATING

The convenient size, shape and construction of standard electric space heaters, makes them easily applicable to a wide variety of heating problems. Isolated rooms and buildings, portions of buildings, locations where no other heat will reach, can be heated conveniently and economically with electric heaters. They are also used for adding to inadequately heated rooms and for other unusual problems.

Calculation of the wattage required to heat any space must include the watts required to heat the air, heat absorbed by and lost thru the walls and heat lost through windows. The following data will be found valuable in calculating wattage requirements for many applications.

Assuming a required temperature rise of 70° F., with 12" brick wall or equally good construction such as insulated double wood frame wall, total wattage required will be the sum of A, B and C as follows:

A = 0.35 watts per cu. ft. of room (to provide one complete change of air per hour).
B = 3.5 watts per sq. ft. of area of exposed walls, ceiling and floor.
C = 35.0 watts per sq. ft. of exposed window area.

For thinner brick or concrete walls or poor frame construction, some extra wattage must be added depending upon actual conditions, to compensate for greater heat losses.

EXAMPLE:—(All dimensions to be in feet).

Watts A = width x length x height x .35.

Watts B = (2 x width x height) + (2 x width x length) + (2 x height x length)—total window area) x 3.5.

Watts C = Number of windows x width of windows x height of windows x 35.

Total watts required for 70° F. rise = A+B+C.

For higher temperature rise, multiply total watts by ratio between actual temperature rise and 70. For xample, for 100° F. rise use $\frac{100}{70}$ x total watts as falculated above = final watts required.

Select the required number of standard 500 watt space heaters and mount them at advantageous locations throughout the room for uniform heat distribution. All heaters should be carefully mounted and connected, and if in an exposed location, they should be enclosed with a rigid screen or guard to prevent contact by persons or inflammable material. The heaters should preferably be mounted horizontally on edge and spaced at least 1¾" apart.

Energy Required to Heat Air

Temperature rise in Degrees F.	Watts required per Cu. Ft. per Hr.	Temperature rise in Degrees F.	Watts required per Cu. Ft. per Hr.
70	.35	300	1.65
100	.55	400	2.20
200	1.10	500	2.75

USEFUL INFORMATION

ALTERNATING CURRENT GENERATORS AND MOTORS

Alternating Current Generators are built in two types, the revolving field and revolving armature types. The names of the two sets of windings are rotor and stator. The revolving field type machine is mostly used, because of the field current only having to pass through the brushes and collector rings, the high tension wires all being stationary.

Alternating Current Generators are separately excited. That is, the field current is supplied from an auxiliary Direct Current Generator, known as an exciter.

Current supplied from an Alternating Current Generator alternates in direction at regular intervals, and from this characteristic is derived the terms "frequency" or "cycles," which always has a numerical value which defines the period of the alternations. The most generally adopted systems operate at either 60 cycles, 720 alternations, or 25 cycles, 3000 alternations, while there are some Central Stations which supply either 40 cycle, 50 cycle, or 133 cycle current.

Alternating current is generated single, two or three phase, two and three phase systems being the most commonly used. They are better adapted for operating large motors. The three phase system has been universally adopted on account of economy in construction and operation. Single phase systems require two wires, two phase systems either three or four wires, and three phase systems three and four wires.

Alternating Current Motors are constructed single, two or three phase, and of many different types, and for all frequencies and synchronous speeds.

Single-Phase Motors: Single-phase motors are built in several different types, viz.: Repulsion, Repulsion Induction and Induction Types, being used for constant or variable speed service.

Repulsion Induction motors are the most generally used of all single-phase motors and furnished for constant and variable speed.

Polyphase Induction Motors: Polyphase Induction Motors are built in two types, viz.: Squirrel Cage and Slip Ring or Wire Wound Rotor Types.

Squirrel Cage Rotor Type motor has nearly a constant speed (starting torque high), and is the type most generally used for driving machinery.

Slip-ring motor is adapted for speed variation ranging from 50% to 100%, and also is used for constant speed service. It has a high starting torque with a low starting current demand, which particularly adapts it for any service where a heavy starting current is objectionable.

Both the Squirrel Cage and Slip-ring type motors can be supplied for any frequency, voltage or speed.

Starting Torque: The starting torque of a constant speed motor is twice full load torque on full voltage. In general the torque varies as the square of the applied voltage. The reason for using a reduced electromotive force at starting is to reduce the sudden shock which may throw off belts or cause mechanical injury, and to reduce the starting current. When 50% voltage is applied to the motor, half full load torque is given.

Synchronous Motors are primarily used for power factor correction and are also sometimes called "Synchronous Condensers," because they can be operated at a leading current to raise the power factor of an alternating current system. Synchronous motors for driving power are equipped with an extra starting winding, which will give from 30% to 50% full load torque, and will operate at a constant or synchronous speed with no slip. It is advisable to have one or more synchronous motors on all alternating current systems. Each case requires a particular calculation to fit it with the proper sized motor for the conditions and should be referred to those familiar with synchronous motor installations.

Starting of Synchronous Motors: The starting of synchronous motors differs from the starting of induction motors, due to the fact that they have a field which is supplied from an auxiliary, known as an exciter.

Before starting the motor, first see that the field discharge switch is open from the field of the motor, but the motor field must be short circuited through the field discharge resistance. Otherwise, there will be a high voltage discharge between the field coils when the current is thrown on the motor, which is due to a transformer action between the windings. After seeing that the field switch is in its proper position, set the field rheostat at a point to give zero power factor when the switch is thrown in. After these precautions have been taken, the motor is ready to start, and should come up to speed on throwing the compensator into the starting position. When the motor has attained full speed, throw the compensator into running position, and then close the field switch, when the motor will step into synchronism. After this the rheostat should be set for full field current, and the motor will then operate "leading."

To stop the motor, first turn the rheostat back to the zero power factor position, then open the field switch and throw off the compensator, the switches and rheostat being in position for next starting.

If a synchronous motor which has sufficient starting torque to meet the load conditions should fail to start when the current is thrown into the stator windings, it is probably due to the "standing" relation of the field to the stator windings, because of there being an equal number of stator to rotor coils, and should they both be in a central position to each other, the rotor will not have any starting torque. To remedy this move the rotor a slight distance in either direction, and the rotor will then start.

USEFUL INFORMATION

ALTERNATING-CURRENT FORMULAS

Power-factor of an alternating current is the number by which the apparent power in the circuit (volts times amperes) must be multiplied together in order to ascertain true power. When an alternating-current circuit contains inductance, the current lags behind the E. M. F., and when it contains capacity the current rises ahead of the E. M. F.; in each case the current and E. M. F. reach their maximum values at different instants, and the product of the E. M. F. and current at any instant is less than it would be if the two were in phase with each other. If the E. M. F. and current be measured separately the voltmeter and ammeter will give the individual mean effective values; if they are measured by a wattmeter, the instrument indicates their combined effect synchronously, not the product of their effective values which occur at different instants. Consequently, the wattmeter indication will be less than the product of the separate voltmeter and ammeter readings; the ratio of the power to this product is the power-factor of the circuit. Expressed as a formulæ

$$\text{Power-Factor} = \frac{\text{Watts}}{\text{Amperes} \times \text{Volts}}$$

This gives rise to the two methods of rating electrical apparatus, one on the basis of watts or kilowatts, and the other on the basis of volt-amperes or kilowatt-amperes (K. V A.).

The former represents actual power, usually in K. W., while the latter represents the apparent power, usually in K. V. A. (kilovolt ampere), generated, transmitted or used by the apparatus. The latter or K. V. A. rating is coming into more general use since it represents more adequately the voltage and current conditions to which the apparatus is subjected.

Current per Phase in Various Systems

$$I = \frac{W}{E \times P.F.} \text{ for Single-Phase Circuit.} \qquad I = 0.50 \times \frac{W}{E \times P.F.} \text{ for Two-Phase Circuit.}$$

$$I = 0.58 \times \frac{W}{E \times P.F.} \text{ for Three-Phase Circuit.}$$

Temp. C.=5/9 (Temp. F.—32) Temp. F.=9/5 Temp. C.—32

I=Current in line in amperes; W=Energy delivered in watts; E=Potential between mains in volts; P.-F.=Power-factor. When power-factor cannot be accurately determined it may be assumed as follows: Lighting load with no motors, 0.95; lighting and motors, 0.85; motors only, 0.80.

ALTERNATING-CURRENT GENERATOR DATA

Speeds—Speeds are standard to give the desired frequency. In order to obtain speed of a 60-cycle alternator, divide 7,200 by the number of poles. To obtain speed of a 25-cycle alternator, divide 3,000 by the number of poles. 1,200 R. P. M. and 100 R. P. M. are the maximum standard speeds.

Voltage—Standard voltages are 240, 480, 600, 1,200 and 2,400.

Cycles or Frequency—Standard frequencies most used are 60 cycles per second (7,200 alternations per minute), and 25 cycles per second (3,000 alternations per minute). To obtain the frequency of an alternator in cycles per seconds, the formula is to multiply the speed by the number of poles and divide by 120.

60-cycle alternators are almost entirely used for central lighting and power stations.

25-cycle alternators are used for railway operation.

Phase—Standard alternators are built for three-phase or two-phase. (Any three-phase alternator will deliver continuously 70% to 75% of its three-phase capacity as single-phase load connected to any two of its three terminals. The third terminal must be left disconnected. Two-phase machines should not be used to supply single-phase current. The usual plant conditions are best met by three-phase alternators.)

Amperes per Terminal—Amperes per terminal at 100% power-factor are determined in the various systems as follows:

$$\text{One-Phase Amperes per Terminal} = \frac{\text{K.W.} \times 1000}{\text{Volts}}$$

$$\text{Two-Phase Amperes per Terminal} = \frac{\text{K.W.} \times 500}{\text{Volts}}$$

$$\text{Three-Phase Amperes per Terminal} = \frac{\text{K.W.} \times 580}{\text{Volts}}$$

Regulation—Regulation is the percentage rise in voltage when load is thrown off, speed and excitation remaining constant. The smaller the rise, the better the regulation.

Wave Form—By accurate shaping of the pole-face and slots, alternators give a wave-form practically identical with the sine wave, which is the ideal.

Operation in Parallel—Alternators of different manufacturers will operate successfully in parallel with any other alternator, provided the angular velocity does not vary more than 2½ electrical degrees (lagging or leading) from the normal. Thus a total variation not exceeding 5 electrical degrees is allowable. An electrical degree is the angle between adjacent poles divided by 180.

USEFUL INFORMATION

HOW TO USE MOTOR TABLES

On the Following Page

The tables shown on the following page are compiled on a basis of 1 volt loss for convenience in using the table on other percentages of loss. It is usual to allow a loss of more than 1 volt for motor service. In such case, divide the distance by the loss allowed, which will give the number of feet in which a loss of 1 volt will occur. Find this number of feet on the table at the horsepower and voltage required and you will have necessary size of wire.

Example—A 5 horsepower, 220-volt motor, 400 feet from service, at volts loss.

Explanation—A loss of 8 volts from 400 feet would be equal to a loss of 1 volt for 50 feet (400 divided by 8 equals 50). By referring to table we find that to carry a 5 horsepower, 220-volt motor, 50 feet with a volt loss, a 6 B. & S. wire is required, which means that the same wire would be required to do the work called for by the example.

Always take the nearest number above rather than below in the table to the number of feet actually required. Do not use a smaller wire than given in following table.

MINIMUM SIZE WIRE FOR MOTOR SERVICE

Horse Power	Size of Wire, B. & S. 110 Volts	220 Volts	500 Volts	Horse Power	Size of Wire, B. & S. 110 Volts	220 Volts	500 Volts
½	14	14	14	10	2	5	10
1	14	14	14	15	00	3	8
2	10	14	14	20	000	2	6
3	8	12	14	25	0000	1	5
4	6	10	14	30	-------	00	4
5	5	8	14	40	-------	000	2
7½	3	6	12	50	-------	0000	1

AMPERES PER MOTOR

Horse Power	Per Cent of Efficiency	Watts	Operating Voltage 50	75	110	220	400	500	600	800	1000	1200
½	75	497	10.	6.62	4.5	2.25	1.24	1.	.83	.62	.497	.41
¾	75	746	14.9	9.94	6.78	3.38	1.86	1.48	1.24	.93	.746	.62
1	75	995	20.	13.24	9.	4.5	2.5	2.	1.66	1.24	1.	.82
1½	80	1492	29.8	19.8	13.56	6.78	3.73	2.98	2.48	1.86	1.492	1.24
2	80	1865	37.3	24.9	16.9	8.5	4.7	3.8	3.1	2.33	1.9	1.6
3	80	2797	55.9	37.2	25.4	12.7	6.99	5.59	4.66	3.49	2.797	2.33
4	80	3730	74.6	49.8	33.8	16.9	9.3	7.5	6.2	4.66	3.8	3.1
5	80	4662	93.2	62.1	42.3	21.1	11.65	9.32	7.77	5.82	4.662	3.88
7½	90	6217	124.	82.9	56.5	82.2	15.34	12.43	10.36	7.77	6.217	5.18
10	90	8288	165.	110.	75.3	37.6	20.72	16.57	13.81	10.36	8.288	6.9
15	90	12433	248.	165.	113.	56.5	31.08	24.86	20.72	15.54	12.43	10.36
20	90	16578	331.	221.	150.	75.3	41.44	33.15	27.63	20.72	16.57	13.98
25	90	20722	414.	276.	188.	94.1	51.8	41.6	34.5	25.9	20.7	17.2
30	90	24866	497.	331.	226.	113.	62.	49.7	41.4	31.	24.8	20.7
40	90	33155	663.	442.	301.	150.	82.8	66.3	55.2	41.4	33.1	27.6
50	90	41444	828.	552.	376.	188.	103.	82.8	69.	51.8	41.4	34.5
60	90	49733	994.	663.	452.	226.	124.	99.4	82.8	60.	49.7	41.4
70	90	58022	1160.	773.	527.	263.	145.	116.	96.7	72.5	58.	48.3
80	90	66311	1326.	884.	602.	301.	165.	132.	110.	82.9	66.3	55.2
90	90	74599	1491.	994.	678.	339.	186.	149.	124.	93.	74.5	62.
100	90	82888	1657.	1105.	753.	376.	207.	165.	138.	103.	82.8	69.
120	90	99459	1989.	1326.	904.	452.	248.	198.	165.	124.	99.	82.8
150	90	24312	2486.	1657.	1131.	565.	310.	248.	207.	155.	124.	103.

AMPERES PER HORSE POWER IN D. C. MOTORS

Efficiency of Motor

Voltage	75 Per Cent	80 Per Cent	85 Per Cent	90 Per Cent
110	9.	8.4	7.9	7.5
220	4.5	4.2	3.95	3.75
500	1.98	1.86	1.75	1.66

USEFUL INFORMATION

WIRING TABLES

Two Per Cent Loss on 110 Volts

Capacity Amperes	Distance in Feet to Center of Distribution																		
	20	30	40	50	60	70	80	90	100	120	140	160	180	200	240	280	320	360	400
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16	15	15	14	14
1.5	....	....	....	....	....	....	....	....	....	....	....	16	15	15	14	14	13	12	12
2	....	....	....	....	....	....	....	....	....	16	15	15	14	14	13	12	12	11	11
3	....	....	....	....	....	....	16	15	15	14	14	13	12	12	11	11	10	9	9
4	....	....	....	....	16	15	15	14	14	13	12	12	11	11	10	9	9	8	8
5	....	....	....	16	15	14	14	13	13	12	11	11	10	10	9	8	8	7	7
6	....	....	16	15	14	14	13	12	12	11	11	10	9	9	8	8	7	7	6
7	....	16	15	14	14	13	12	12	11	11	10	9	9	8	7	7	6	6	5
8	....	16	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	5
9	....	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	5	4
10	16	15	14	13	12	11	11	10	10	9	8	8	7	7	6	5	5	4	4
12	16	14	13	12	11	11	10	9	9	8	8	7	7	6	5	5	4	4	3
14	15	14	12	11	11	10	9	9	8	7	7	6	6	5	5	4	3	3	2
16	15	13	12	11	10	9	9	8	8	7	7	6	5	5	4	3	3	2	2
18	14	12	11	10	9	9	8	8	7	7	6	5	5	4	4	3	2	2	1
20	14	12	11	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1	1
25	13	11	10	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	0
30	12	10	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	0	00
35	11	10	8	7	7	6	5	5	4	4	3	2	2	1	1	0	00	00	000
40	11	9	8	7	6	5	5	4	4	3	2	2	1	1	0	00	00	000	000
45	10	9	7	6	6	5	4	4	3	3	2	1	1	0	00	00	000	000	0000
50	10	8	7	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000
60	9	7	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000	.....
70	8	7	5	4	4	3	2	2	1	1	0	00	00	000	000	0000	0000	.....	.....
80	8	6	5	4	3	2	2	1	1	0	00	00	000	000	0000	0000	.....	.....	.....
90	7	6	4	3	3	2	1	1	0	00	00	000	000	0000	0000	.....	.....	.....	.....
100	7	5	4	3	2	1	1	0	0	00	000	000	0000	0000	.....	.....	.....	.....	.....
120	6	4	3	2	1	1	0	0	00	00	000	0000	0000	.....	.....	.....	.....	.....	.....

Two Per Cent Loss on 220 Volts

Capacity Amperes	Distance in Feet to Center of Distribution																		
	20	30	40	50	60	70	80	90	100	120	140	160	180	200	240	250	320	360	400
1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16
1.5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16	15	15
2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16	15	15	14	14
3	....	....	....	....	....	....	....	....	....	....	....	16	15	15	14	14	13	12	12
4	....	....	....	....	....	....	....	....	....	16	15	15	14	14	13	12	12	11	11
5	....	....	....	....	....	....	....	....	16	15	14	14	13	13	12	11	11	10	10
6	....	....	....	....	....	....	16	15	15	14	14	13	12	12	11	11	10	9	9
7	....	....	....	....	....	16	15	14	14	14	13	12	12	11	11	10	9	9	8
8	....	....	....	....	16	15	15	14	13	13	12	12	11	11	10	9	9	8	8
9	....	....	....	....	15	15	14	14	13	12	12	11	11	10	9	9	8	8	7
10	....	....	....	16	15	14	14	13	13	12	11	11	10	10	9	8	8	7	7
12	....	....	16	15	14	14	13	12	12	11	11	10	9	9	8	8	7	7	6
14	....	16	15	14	14	13	12	12	11	11	10	9	9	8	7	7	6	6	5
16	....	16	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	6	5
18	....	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	5	4
20	16	15	14	13	12	11	11	10	10	9	8	8	7	7	6	5	5	4	4
25	16	14	13	12	11	10	10	9	9	8	7	7	6	6	5	4	4	3	3
30	15	13	12	11	10	10	9	9	8	7	7	6	6	5	4	4	3	3	2
35	14	13	11	10	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1
40	14	12	11	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1	1
45	13	12	10	9	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0
50	13	11	10	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	0
60	12	10	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	0	00
70	11	10	8	7	7	6	5	5	4	4	3	2	2	1	1	0	00	00	000
80	11	9	8	7	6	5	5	4	4	3	2	2	1	1	0	00	00	000	000
90	10	9	7	6	6	5	4	4	3	3	2	1	1	0	00	00	000	000	0000
100	10	8	7	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000
120	9	7	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000	.....

Wire sizes given are B. & S.

USEFUL INFORMATION

DEFINITIONS OF ELECTRICAL UNITS

All Electrical Units are Derived from the Following Mechanical Units:

The Centimeter is the Unit of Length, and Equals .3937 Inch, or .000000001 of a Quadrant of the Earth.

The Gram is the Unit of Mass, and is Equal to 15.432 Grains, the Mass of a Cubic Centimeter of Water at 4° C.

The Second is the Unit of Time and is the Time of One Swing of a Pendulum Swinging 86464.09 Times per Day, or the 1-86400th Part of a Mean Solar Day.

Ampere—Unit of Current Strength.—The Unit Strength of Current, Called the Ampere, is the Rate of Flow of Electricity Along a Conductor and is Analogous to the Rate of Flow of Water Through a Pipe. The Flow of Water Through a Pipe is Measured by the Amount which Flows per Second; In Electricity the Amount of Current is Measured also, but Instead of Gallons per Second, Coulombs per Second is Used. As the Expression of Coulombs per Second was Found Somewhat Cumbersome, the Name Ampere was Used; Thus 10 Coulombs per Second is just 10 Amperes.

Volt—Unit of Pressure.—The Flow of Electricity Depends upon Pressure the Same as Water in a Pipe Depends upon Pressure for its Flow. When Speaking of Water, Pressure is Termed as Pounds per Square Foot, but in Electricity, Pressure is Termed as Volts. When a Current of One Ampere Flows Through a Resistance of One Ohm the Pressure is One Volt. When a Conductor Cuts Lines of Magnetic Flux at the Rate of 100,000,000 per Second, a Pressure of One Volt is Produced.

Ohm—Unit of Resistance.—A Conductor has a Resistance of One Ohm when One Volt will Force a Current of One Ampere Through It. For Measuring very Small Resistances the Microhm is Used, which is One Millionth Part of an Ohm; For Very High Resistances, the Megohm is Used, which is One Million Times Larger than the Ohm.

Watt—Unit of Power.—In the Case of Water, the Rate of Flow is Termed as the Number of Gallons per Minute; in Electricity by the Number of Amperes or Coulombs per Second. The Power Required to Keep a Current of Water Flowing is the Product of the Current in Pounds per Minute by Head or Pressure in Feet. The Power Required to Keep a Current of Electricity Flowing is the Product of the Amperes Times the Pressure in Volts; this Gives the Power in Terms of Watts.

Kilowatt—1,000 Watts.—1.34 Horsepower.

Horsepower—A Rate of Doing Work Equal to 33,000 Pounds Raised One Foot in One Minute.

Coulomb—Unit of Quantity.—Amount of Electricity Passing in a Circuit in One Second when the Current is One Ampere.

Farad—Unit of Capacity.—A Capacity that will Contain One Coulomb at a Potential of One Volt.

Joule—Unit of Work.—The Work Done or Heat Generated by One Watt in One Second.

Circular Mil—Unit of Area.—The Area of a Circle with a Diameter of One Mil or One-thousandth Part of an Inch.

Unit Reluctance is Possessed by a Magnetic Path when Unit Magnetomotive Force will Cause Unit Flux to be Set Up.

Permeance of a Magnetic Circuit is a Measure of the Flux which will be Produced in the Circuit by a Given (Magnetomotive Force). It is a Reciprocal of Reluctance. A circuit having Unit Permeance will require unit (Magnetomotive Force) to Produce Unit Flux.

Permeability is the Ratio of Flux Density to Magnetizing Force.

Susceptibility is the Ratio of Intensity of Magnetization to Magnetizing Force.

Reluctivity or **Specific Reluctance** is the Reluctance of One Centimeter Cube of the Magnetic Path.

Unit Electromotive Force will Cause Unit Current to be Established in a Circuit of Unit Resistance.

Coefficient of Self-Induction of a Circuit is Proportional to that Value of Electromotive Force Produced in it by a Unit Rate of Variation of Current Through it. The Practical Unit is the Henry and Represents the Coefficient of a Circuit in which the Rate of Change of Current of One Ampere per Second will Generate One Volt of Electromotive Force in the Circuit.

Resistivity or **Specific Resistance** is the Resistance of One Centimeter Cube of Conductor.

Conductivity is the Reciprocal of Resistivity.

Conductance is the Reciprocal of Resistance.

Magnetomotive Force—The Force which Produces Magnetic Flux.

OHM'S LAW

Ohm's Law is a Method of Expressing Relationship Existing Between Electromotive Force (Voltage), Current (Amperage) and Resistance (Ohms), and is the Practical Basis of Most Electrical Computations.

Current Flow Equals the Electromotive Force Divided by the Resistance.

$$\text{Current Flow} = \frac{\text{Electromotive Force}}{\text{Resistance}} \text{ or } C = \frac{E}{R}$$

Electromotive Force Equals the Current Flow Multiplied by the Resistance.

Electromotive Force = Current Flow x Resistance or $E = C \times R$.

Resistance Equals the Electromotive Force Divided by the Current Flow.

$$\text{Resistance} = \frac{\text{Electromotive Force}}{\text{Current Flow}} \text{ or } R = \frac{E}{C}$$

Electromotive Force Varies Directly as the Current and Resistance.

Resistance Varies Directly with the Electromotive Force and Inversely as the Current.

Current Varies Directly with the Electromotive Force and Inversely as the Resistance.

The "Mil," Whose Expressed Value is $\frac{\text{one}}{\text{one-thousandth}}$ (.001) of an Inch, is the Practical Basis for Determining the Diameters and Thereby the Areas of all Wires Used as Electric Conductors. The Diameter being Given, the Area is Obtained by the Well-known Rule, "the Area of a Circle, in Circular Units, is Equal to the Square of its Diameter," Hence the Square of the Diameter of a Wire Expressed in Mils Equals the Area of its Cross Section. $D^2 = A$, which Area is Expressed in Circular Mils or CM; hence, $D^2 = CM$.

NATIONAL ELECTRICAL CODE CONDUCTOR TYPES

Lighting and Power Wires and Cables

Type	Description
R	Rubber-covered — Code Grade — Figures following designation denote voltage
RW	Rubber - covered — Moisture - Resistant Grade — For Moist Locations
RH	Rubber-covered — Heat-Resistant Grade
RW-60C or RH-75C	Rubber-covered — A dual - purpose wire for moist locations with a 60 C rating or for dry locations with a 75 C rating
RU	Rubber-covered — 90% Unmilled Grainless Rubber
T	Thermoplastic-covered
TW	Thermoplastic-covered—No Lead Sheath —For Moist Locations
TA	Thermoplastic and Asbestos - covered — For Switchboard Wiring
RL	Rubber - covered — Code Grade — Lead Overall
RHL	Rubber - covered — Heat-resistant Grade — Lead Overall
RWL	Rubber - covered — Moisture - resistant Grade — Lead Overall
RD	Twin Wire, Two Rubber-insulated, Code Grade — Fibrous-covered
RHD	Twin Wire, Two Rubber-insulated, Heat-resistant Grade — Fibrous-covered
RWD	Twin Wire, Two Moisture-resistant Rubber insulated — Fibrous-covered — For Moist Locations
RDL	Twin Wire, Two Rubber - insulated — Code Grade — Lead Overall
RHDL	Twin Wire, Rubber-insulated, Heat-resistant Grade — Lead Overall
RWDL	Twin Wire, Two Moisture-resistant Rubber-insulated — Lead Overall
RM	Rubber-covered — Code Grade — Multiple Conductors
RHM	Rubber-covered — Heat-resistant Grade — Multiple Conductors
RWM	Rubber - covered — Moisture - resistant Grade — Multiple Conductors
RML	Rubber-covered—Code Grade—Multiple Conductors — Lead Overall
RHML	Rubber-covered — Heat-resistant Grade — Multiple Conductors — Lead Overall
RWML	Rubber - covered — Moisture - resistant Grade — Multiple Conductors — Lead Overall
AC	A Cable two or more Rubber-insulated, Usually Code Grade — Fibrous-covered Conductors—Twisted and Armored
ACV	A Cable, two or more varnished-cambric insulated — Fibrous - covered Conductors — Twisted and Metallic Armored
ACL	A Cable, two or more Rubber-insulated —Usually Code Grade—Fibrous-covered Conductors, Twisted, Lead-covered and Armored
V	Varnished-cambric-covered Wire
A	Asbestos-insulated without asbestos braid

Lighting and Power Wires and Cables

Type	Description
AA	Asbestos-insulated with asbestos braid
AI	Impregnated-Asbestos-covered Wire
AIA	Impregnated-Asbestos-insulated with asbestos braid
AVA	Impregnated - Asbestos and Varnished - cambric-covered Wire, Asbestos Braid
AVB	Impregnated - Asbestos and Varnished - cambric-covered Wire, Flame-resistant Cotton Braid
AVL	Impregnated - Asbestos and Varnished - cambric-covered Wire—Lead Overall
GTO	Gas-Tube Sign and Oil-Burner Ignition Cable—one Polyethylene insulated conductor—Thermoplastic jacketed
SD	Service Drop Cable—one or two rubber-insulated conductors—saturated braid—concentric uninsulated neutral—protective paper tape — Moisture - resistant, flame retardant braid
SE	Service Entrance Cable — one or two rubber-insulated conductors — saturated braid—concentric uninsulated neutral—moisture seal—moisture-resistant, flame-retardant braid (flat metal tape may be applied over the concentric neutral when desired)
USE	Underground Service Cable — Single-, twin- or three-conductor — Moisture-resistant rubber-insulated — neoprene-jacketed or lead-covered and parkway-armored
SB	Slow-burning Wire
SBW	Slow-burning Weatherproof Wire
WP	Weatherproof Wire

Fixture Wires

AF	Asbestos-covered Heat-resistant Fixture Wire
CF	Cotton - covered Heat - resistant Fixture Wire
RF-64	Rubber-covered Fixture Wire—Solid or Stranded — 1/64″ Insulation
RF-32	Rubber-covered Fixture Wire—Solid or Stranded — 1/32″ Insulation
FF-64	Rubber-covered Fixture Wire—Flexible Stranding — 1/64″ Insulation
FF-32	Rubber-covered Fixture Wire—Flexible Stranding — 1/32″ Insulation
TF	Thermoplastic-covered Fixture Wire — Solid or Stranded
TFF	Thermoplastic - covered Fixture Wire — Flexible Stranding

Flexible Cords

AT	Asbestos-covered Tinsel Cord
ATJ	Asbestos-covered Tinsel Cord — Rubber Jacketed
CT	Cotton-covered Tinsel Cord
CTJ	Cotton - covered Tinsel Cord — Rubber Jacketed
AFC	Asbestos - covered — Heat - resistant — Twisted Pair
AFPO	Asbestos - covered — Heat - resistant — Parallel
AFPD	Asbestos - covered — Heat - resistant — Twisted Pair — Braid Overall

NATIONAL ELECTRICAL CODE CONDUCTOR TYPES

Fixture Wires
(Continued)

Type	Description
CFC	Cotton - covered — Heat - resistant — Twisted Pair
CFPD	Cotton - covered — Heat - resistant — Twisted Pair — Braid Overall
CFPO	Cotton - covered — Heat - resistant — Parallel
PO	Parallel Cord — Rubber - insulated — Fibrous-covered—Figures following denote insulation thickness
POSJ	All-rubber Parallel Cord — Figures following, plus 1/64", denote insulation thickness
POT	All-plastic Parallel Cord — Figures following, plus 1/64", denote insulation thickness
C	Lamp Cord — Twisted Pair
CA	Armored Cord
PD	Portable or Pendant Lamp Cord—Twisted Pair—Braid Overall
P	Reinforced Cord — Rubber-insulated — Rubber Fillers—Cotton-covered, Figures following denote insulation thickness, otherwise 3/64"
PWP	Reinforced Cord—Moisture-proof—Figures following denote insulation thickness, otherwise 3/64"
K	Heavy-Duty Cord — Braided
PAWP	Reinforced Cord—Moisture-proof—Armored
S	Hard-Service Cord — Rubber-insulated and -jacketed
SJ	Junior Hard-Service Cord—Rubber insulated and -jacketed
SV	Vacuum Cleaner Cord — Rubber-insulated and -jacketed
SO	Hard-Service Cord—Rubber-insulated—Oil-resistant compound-jacketed
SJO	Junior Hard-Service Cord — Rubber-insulated—Oil-resistant compound-jacketed
ST	Hard-Service Cord—Thermoplastic-insulated and -jacketed
SJT	Junior Hard-Service Cord—Thermoplastic-insulated and -jacketed
SVT	Vacuum Cleaner Cord — Thermoplastic-insulated
AFS	Heat-resistant Cord—Rubber-jacketed—Heavy Duty
AFSJ	Heat-resistant Cord—Rubber-jacketed—Light Duty
HC	Heater Cord—Twisted Pair
HPD	Heater Cord — Twisted Pair — Braid Overall
HSJ	Heater Cord — Twisted Pair — Rubber Overall
E	Elevator Cable — Rubber-insulated — Nonhazardous Locations
EO	Elevator Cable — Rubber insulated — Neoprene - jacketed — Hazardous Locations

USEFUL INFORMATION

CARRYING CAPACITIES OF INSULATED WIRES AND CABLES

Number A.W.G.	Capacity Circular Mils	Amperes Rubber Insulation	Amperes Weatherproof Insulation
18	1,624	3	6
16	2,583	6	10
14	4,107	15	20
12	6,530	20	30
10	10,380	25	35
8	16,510	35	50
6	26,250	50	70
5	33,100	55	80
4	41,740	70	90
3	52,630	80	100
2	66,370	90	125
1	83,690	100	150
0	105,500	125	200
00	133,100	150	225
000	167,800	175	275
-------	200,000	200	300
0000	211,600	225	325
-------	300,000	275	400
-------	400,000	325	500
-------	500,000	400	600
-------	600,000	450	680
-------	700,000	500	760
-------	800,000	550	840
-------	900,000	600	920
-------	1,000,000	650	1,000
-------	1,100,000	690	1,080
-------	1,200,000	730	1,150
-------	1,300,000	770	1,220
-------	1,400,000	810	1,290
-------	1,500,000	850	1,360
-------	1,600,000	890	1,430
-------	1,700,000	930	1,490
-------	1,800,000	970	1,550
-------	1,900,000	1,010	1,610
-------	2,000,000	1,050	1,670

Drop of potential is not taken into consideration in the above table. These amperages for rubber-covered wires are adopted because to exceed them may cause gradual deterioration of the insulation even though the chance of ignition from overheating may be small.

Wires smaller than No. 14 should not be used except as prescribed in Underwriters' rules.

VOLTS LOST PER 1,000 FEET PER AMPERE

Size Circular Mils	Volts Lost	Size Circular Mils	Volts Lost
2,000,000	0.00535	0000	0.05053
1,750,000	0.00611	000	0.06372
1,500,000	0.00713	00	0.08035
1,250,000	0.00856	0	0.10126
1,000,000	0.01070	1	0.12776
950,000	0.01126	2	0.16109
900,000	0.01189	3	0.20315
850,000	0.01259	4	0.25615
800,000	0.01337	5	0.32302
750,000	0.01427	6	0.40732
700,000	0.01529	7	0.51367
650,000	0.01646	8	0.64767
600,000	0.01783	9	0.81659
550,000	0.01945	10	1.0300
500,000	0.02140	12	1.6375
450,000	0.02378	14	2.6685
400,000	0.02675	16	4.1397
350,000	0.03057	18	6.5828
300,000	0.03567	19	8.5376
250,000	0.04280	20	10.467

DETERMINATION OF WIRE SIZES

One of the most important factors in securing satisfactory electrical service is the relation of the size of wire to the load carried. This involves not only the actual wire size employed, but also how the total load is divided into separate circuits.

The flow of electricity through a conductor is analogous to the flow of water through a garden hose. It is common experience that if a short length of garden hose is employed the water flows through with no appreciable loss of pressure but if the length of hose is greatly increased without correspondingly increasing its size a marked drop in pressure is always noticed. The amount of electrical power transmitted by a given size of wire diminishes as the length of the wire increases.

This analogy to electrical conductors is too seldom appreciated. The National Electrical Code establishes minimum wire sizes which give loads on the basis of protection only; that is, the sizes are computed so that for the given load in amperes the wire will not become overheated and thus constitute a potential fire hazard. If No. 14 wire will carry 12 amperes a distance of 10 feet without becoming overheated, it is obvious that it will carry the same number of amperes 100 or 1000 feet without becoming any hotter than for the short run. But if a pressure of 110 volts is impressed on the 10-foot circuit at one end, the resistance of the wire (comparable to the friction in the garden hose) will not appreciably reduce the voltage delivered at the other end in so short a length. If the same voltage were impressed on a circuit 100 feet in length the resistance would be such that less than 107 volts would be delivered, and in the case of 1000-foot circuit there would only be 78.8 volts available for the operation of lights or appliances.

In good wiring practice, therefore, it is essential that the length of the circuit, measured in feet from distribution center to point of load, be considered as well as the number of amperes carried in determining the size of wire to employ. The failure of the National Electrical Code to take into consideration the drop in potential in circuits of various lengths and a general adoption of the wire sizes permitted by the Code on the basis of safety only, has been the cause of incalculable losses of the users of electricity, for they pay in the meter not only for the current actually consumed by the device but for all that is lost in overcoming the resistance of the distribution circuits.

Another factor to take into consideration when planning wiring layouts is the probability of future demand for heavier current consumption than is normally required today. The history of the electrical industry has shown a steady increase in the consumption of current resulting from higher standard of lighting efficiency and wider applications of electrical power and heating devices. It is not safe to assume that the ultimate has been reached. Therefore, all wiring systems should be designed to permit a future increase in load. This may be accomplished by providing spare circuits to take care of future loads, and by using wire sizes in excess of immediate requirements.

METHOD OF COMPUTING WIRE SIZES

The proper size of wire required to carry a current any distance, with a given loss in volts, can be determined from the following table based on Ohm's law.

$$\frac{\text{Length of run in ft.} \times \text{amp.} \times 21.5}{\text{Volts lost}} = \text{Circular Mils}$$

In this formula the number of feet must be measured one way, not both sides of the circuit; volts lost should be taken as the drop allowed in volts, and circular mils show the size of wire to use.

Example: What size wire should be used on a 250-volt circuit where it is necessary to carry 150 amperes a distance of 300 feet to a center of distribution with a loss of 3 per cent under full load—

$$\frac{300 \times 150 \times 21.5}{7.5}$$

= 129,000 circular mils, or No. 00 B. & S. gauge which is the next size heavier.

CAPACITY OF CIRCUITS

Under the National Electrical Code, branch circuits may not carry loads in excess of 1500 watts each. This standard is based on safety requirements only and does not take into consideration the probability of future demands for loads in excess of present requirements. Modern practice demands that branch circuits be designed to carry 1500 watts but should not be loaded in excess of 1000 watts. This provides an allowance for future increase of load without requiring rewiring of buildings with the consequent unnecessary expense.

USEFUL INFORMATION

EQUIVALENT VALUE IN DIFFERENT UNITS

1 H. P.=

746 watts
.746 K.W.
33,000 ft.-lbs. per minute
550 ft.-lbs. per second
2,545 heat-units per hour
42.4 heat-units per minute
.707 heat-unit per second
.175 lb. carbon oxidized per hour
2.64 lbs. water evaporated per hour from and at 212° F.

1 H. P. Hour=

746 K. W. hours
1,980,000 ft.-lbs.
2,545 heat-units
273,740 k.g.m.
.175 lb. carbon oxidized with perfect efficiency
2.64 lbs. water evaporated from and at 212°F.
17.0 lbs. water raised from 62° to 212° F.

1 Kilowatt=

1,000 watts
1.34 H. P.
2,654,200 ft.-lbs. per hour
44,240 ft.-lbs. per minute
737.3 ft.-lbs. per second
3,412 heat-units per hour
56.9 heat-units per minute
.948 heat-unit per second
.2275 lb. carbon oxidized per hour
3.53 lbs. water evaporated per hour from and at 212° F.

1 Watt per Sq. In.=

8.19 heat-units per sq. ft. per minute
6,371 ft.-lbs. per sq. ft. per minute
.193 H. P. per sq. ft.
7.233 ft.-lbs.

1 Kilogram Meter=

.00000365 H. P. hour
.00000272 K. W. hour
.0093 heat-units

1 Lb. Water Evaporated from and at 212° F.=

.283 K. W. hour
.379 H. P. hour
965.7 heat-units
103,900 k. g. m.
1,019,000 joules
751,300 ft.-lbs.
.0664 lb. of carbon oxidized

1 Heat-unit=

1,055 watt seconds
778 ft.-lbs.
107.6 kilogram-meters
.000293 K. W. hour
.000393 H.P. hour
.0000688 lbs. carbon oxidized
1001036 lbs. water evaporated from and at 212° F.

1 Heat-unit per Sq. Ft. per Min.=

.122 watt per sq. in.
.0176 K. W. per sq. ft.
.0236 H.P. per sq. ft.

1 Watt=

1 joule per second
.00134 H.P.
3,412 heat-units per hour
.7373 ft.-lbs. per second
.0035 lb. water evaporated per hour
44.24 ft.-lbs. per minute

1 K. W. Hour=

1,000 watt hours
1.34 H.P. hours
2,645,200 ft.-lbs.
3,600,000 joules
3,412 heat-units
367,000 kilogram-meters
.235 lb. carbon oxidized with perfect efficiency
3.53 lbs water evaporated from and at 212° F.
22.75 lbs. of water raised from 62° to 212° F.

1 Joule=

1 watt second
.000000278 K. W. hour
.102 k. g. m.
.0009477 heat-units
.7373 ft.-lb.

1 Ft.-Lb.=

1.356 joules
.1383 k. g. m.
.000000377 K. W. hour
.001285 heat-unit
.0000005 H.P. hour

1 Lb. Carbon Oxidized with Perfect Efficiency=

14,544 heat-units
1.11 lbs. anthracite coal oxidized
2.5 lbs. dry wood oxidized
21 cu. ft. illuminating gas
4.26 K. W. hours
5.71 H.P. hours
1,315,000 ft.-lbs.
15 lbs. of water evaporated from and at 212° F.

EQUIVALENTS OF ELECTRICAL UNITS

1 Watt—44.236 foot-pounds per minute
1 Watt=2654.16 foot-pounds per hour
1 Kilowatt=44235 foot-pounds per minute
1 Kilowatt=1.34 H. P.
1 Kilowatt=0.955 B. T. U. per second
1 Kilowatt=57.3 B. T. U. per minute
1 Kilowatt=3438 B. T. U. per hour
1 Horse Power=33000 foot-pounds per minute
1 Horse Power=746 Watts
1 Horse Power=42.746 B. T. U. per minute
1 Horse Power=2564.76 B. T. U. per hour

1 B.T.U. (British Thermal Unit)=772 ft. lbs.
1 B.T.U.=17.452 watt minutes
1 B.T.U.=0.2909 watt hour
Latent heat of evaporation of water=966 B.T.U.
Latent heat of melting of water=142 B.T.U.
To evaporate 1 lb. water from and at 212°=16.859 K. W. minutes
To evaporate 1 lb. water from and at 212°=0.281 K. W. hours
Weight per cu. ft. of water=62.42 lbs.
Weight per gallon of water=8.33 lbs.

USEFUL INFORMATION

BARE COPPER WIRE

HARD OR SOFT DRAWN

Dimensions, Weights and Resistances

Am. Gauge B. & S. No.	Diam. Mils	Circular Mils	Pounds Per 1000 Ft.	Pounds Per Mile	Feet Per Pound	Ohms Per 1000 Feet	Ohms Per Mile	Feet Per Ohm	Ohms Per Pound
0000	460.	211600.	639.8	3378.	1.56	.04906	.25903	20383.	.000076736
000	409.640	167805.	507.3	2678.	1.97	.06186	.32664	16165.	.00012039
00	364.800	133079.40	402.4	2124.	2.49	.07801	.41187	12820.	.00019423
0	324.950	105592.50	319.4	1686.	3.13	.09831	.51909	10409.	.00030772
1	289.300	83691.20	253.0	1336.	3.95	.12404	.65490	8062.3	.00048994
2	257.630	66373.	200.6	1059.	4.99	.15640	.82582	6393.7	.00078045
3	229.420	52634.	159.1	840.01	6.29	.19723	1.0414	5070.2	.0012406
4	204.310	41472.	126.2	666.3	7.93	.24869	1.3131	4021.	.0019721
5	181.840	33102.	100.0	528.2	10.	.31361	1.6558	3188.7	.0031361
6	162.020	26250.50	79.35	419.0	12.61	.39546	2.0881	2528.7	.0049868
8	128.490	16509.	49.92	263.6	20.05	.62881	3.3201	1590.3	.012608
9	114.430	13094.	39.57	208.9	25.28	.79281	4.1860	1261.3	.010042
10	101.890	10381.	31.30	165.8	31.38	1.	5.2800	1000.	.031380
12	80.808	6529.90	19.74	104.2	50.69	1.5898	8.3940	629.02	.080585
14	64.084	4106.76	12.42	65.59	80.42	2.5266	13.3405	375.79	.203180
16	50.820	2582.67	7.802	41.20	127.87	4.0176	21.2130	248.90	.513737
17	45.257	2048.20	6.20	32.746	161.24	5.0660	26.7485	197.39	.816839
18	40.303	1624.33	4.92	25.970	203.31	6.3880	33.7285	156.54	1.298764
19	35.890	1288.09	3.90	20.594	256.39	8.0555	42.5329	124.14	2.065312
20	31.961	1021.44	3.09	16.331	323.32	10.1584	53.6362	98.44	3.284374
21	28.462	810.09	2.45	12.952	407.67	12.8088	67.6302	78.07	5.221775
22	25.347	642.47	1.95	10.272	514.03	16.1504	85.2343	61.92	8.301819
23	22.571	509.45	1.54	8.1450	648.25	20.3674	107.540	49.10	13.20312
24	20.100	404.01	1.22	6.4593	817.43	25.6830	135.606	38.94	20.99405
25	17.900	320.41	.97	5.1227	1030.71	32.3833	170.984	30.88	33.37780
26	15.940	254.08	.77	4.0623	1299.77	40.8377	215.623	24.49	53.07946

Solid Conductors

No. B. & S.	Diameter		Square of Sectional Diameter=Area		Approved Carrying Capacity In Amperes	Approximate Weight			
						Lbs. Bare		Weatherproof Insulation	
	Mils	Millimeters	Circular Mils	Square Milimeters	National Code	Lbs. Per 1000 Ft.	Lbs. Per Mile	Lbs. Per 1000 Ft.	Lbs. Per Mile
0000	460.	11.684	211600.	107.219	225	639.8	3378.	767	4050
000	409.640	10.405	167805.	85.028	175	507.3	2678.	629	3320
00	364.800	9.266	133079.4	67.431	150	402.4	2124.	502	2650
0	324.950	8.254	105592.5	53.504	125	319.4	1686.	407	2150
1	289.300	7.348	83694.2	42.409	100	253.0	1336.	316	1670
2	257.630	6.544	66373.	33.632	90	200.6	1059.	260	1370
3	229.420	5.827	52634.	26.670	80	159.1	840.1	199	1050
4	204.310	5.189	41742.	21.151	70	126.2	666.3	164	865
5	181.940	4.621	33102.	16.773	55	100.0	528.2	135	710
6	162.020	4.115	26250.5	13.301	50	79.35	419.0	112	590
8	128.490	3.264	16509.	8.366	35	49.92	263.6	75	395
10	101.890	2.588	10381.	5.260	25	31.30	165.8	53	280
12	80.808	2.053	6529.9	3.309	20	19.74	104.2	35	185
14	64.084	1.628	4106.8	2.081	15	12.42	65.59	25	130
16	50.820	1.291	2582.9	1.309	6	7.802	41.20	20	105

USEFUL INFORMATION

WIRE DATA

Standard Stranded Copper Conductors

Size C. M.	Number of Wires In The Strand: 7	19	37	7x7—49	61	91	127	169	217
	Diameter In Inches of Each Wire In The Strand								
2000000	.5345	.3243	.2325	.202	.181	.1482	.1255*	.1088	.096
1750000	.5000	.3034	.2175	.189	.1694	.1386	.1157*	.1003	.0898
1500000	.4629	.2810	.2013	.175	.1568	.1284*	.1087	.0942	.0831
1250000	.4226	.2565	.1838	.1507	.1431	.1172	.0992	.086	.0759
1000000	.378	.2294	.1644	.1429	.1285*	.1048	.0887	.0769	.0678
950000	.3684	.2236	.1602	.1392	.1248*	.1021	.0864	.075	.0662
900000	.3586	.2176	.1559	.1355	.1215*	.0994	.0841	.073	.0644
850000	.3484	.2115	.1516	.1317	.1181*	.0966	.0818	.0709	.0626
800000	.338	.205	.147	.1278	.1145*	.0937	.0793	.0687	.0607
750000	.3273	.1986	.1424	.1237	.1109*	.0908	.0768	.0666	.0588
700000	.3163	.1919	.1375	.1195	.1071*	.0883	.0742	.0644	.0568
650000	.3047	.1850	.1325	.1152	.1032*	.0845	.0716	.0620	.0547
600000	.2928	.1778	.1273	.1107	.0992*	.0812	.0687	.0596	.0526
550000	.2803	.1701	.1219	.106	.0950*	.0777	.0658	.0570	.0503
500000	.2672	.1622	.1162*	.101	.0905	.0741	.0627	.0544	.048
450000	.2535	.1539	.1103*	.0958	.0859	.0703	.0595	.0516	.0455
400000	.2391	.1451	.1040*	.0904	.081	.0663	.0561	.0487	.0429
350000	.2236	.1357	.0973*	.0845	.0757	.0620	.0526	.0455	.0401
300000	.207	.1257	.0901*	.0783	.0701	.0573	.0486	.0421	.0372
250000	.189	.1147	.0822*	.0714	.064	.0524	.0444	.0384	.0340
Size B. & S.									
0000	.1736	.1055*	.0756	.0657	.0589	.0482	.0408	.....	.....
000	.1548	.0940*	.0673	.0586	.0525	.0429	.0363	.....	.....
00	.1378	.0836*	.0599	.0521	.0467	.0382	.0323	.....	.....
0	.1228	.0746*	.0534	.0464	.0416	.0340	.0288	.....	.....
1	.1093	.0663*	.0475	.0413	.0370	.0303	.0252	.....	.....
2	.0973*	.0592	.0423	.0369	.0329	.0269	.0228	.....	.....
3	.0867*	.0526	.0377	.0327	.0294	.0240	.0203	.....	.....
4	.0772*	.0468	.0335	.0291	.0261	.0214	.0179	.....	.....
5	.0687*	.0417	.0299	.026	.0233	.0190	.0161	.....	.....
6	.0612*	.0372	.0266	.0231	.0207	.0169	.0143	.....	.....
7	.0545*	.0331	.0237	.....	.0184	.0151	.0128	.....	.....
8	.0485*	.0293	.0211	.0184	.0164	.0135	.0114	.....	.....
9	.0435*	.0262	.0187	.....	.0146	.0120	.0101	.....	.....
10	.0385*	.0223	.0168	.....	.0129	.0106	.0090	.....	.....

*Indicates standard construction for rubber covered cables.

Equivalents of Wires

Showing Approximately Equal Capacities in the Use of Conductors of Different Sizes

Total Capacity C. M.	Equivalent in Number of Smaller Conductors or Combinations: 2	3	4	5	6	Combinations	
1000000	.....	.....	.....	0000	000	.....	.....
800000	.....	.....	0000	000	00	.....	.....
600000	.....	0000	000	00	0	.....	.....
500000	.....	000	00	0	1	.....	.....
400000	0000	00	0	1	2	.....	.....
350000	000	.....	1	2	.....	0000 & 00	.....
300000	.....	0	2	.....	3	000 & 00	0000 & 1
250000	00	1	.....	3	4	000 & 1	0000 & 4
B. & S.							
0000	0	2	3	4	5	00 & 1	000 & 3
000	1	3	4	5	6	0 & 2	00 & 5
00	2	4	5	6	.....	1 & 3	0 & 6
0	3	5	6	.....	8	2 & 4	.....
1	4	6	.....	8	.....	3 & 5	.....
2	5	.....	8	.....	.....	4 & 6	.....
3	6	8	.....	10	.....	.....	.....
4	.....	.....	10	.....	.....	6 & 8	.....
5	8	10	.....	12	.....	.....	.....
6	.....	.....	12	.....	14	8 & 10	.....
8	.....	.....	14	.....	18	12 & 14	.....
10	.....	.....	16	.....	16	10 & 12	.....

USEFUL INFORMATION

WIRE SIZE EQUIVALENTS

Total Capacity C. M.	Number of Smaller Conductors Approx. Equivalent to Total Capacity						
	2	3	4	5	6	1 Each	1 Each
1000000	.....	.....	.....	0000	000	.....	.....
800000	.....	.....	0000	000	00	.....	.....
600000	.....	0000	000	00	0	.....	.....
500000	.....	000	00	0	1	.....	.....
400000	0000	00	0	1	2	.....	.....
350000	000	.....	1	2	.....	0000 & 00	.....
300000	.....	0	2	.....	3	000 & 00	0000 & 1
250000	00	1	.....	3	4	000 & 1	0000 & 4
B.&S.							
0000	0	2	3	4	5	00 & 1	000 & 3
000	1	3	4	5	6	0 & 2	00 & 5
00	2	4	5	6	.....	1 & 3	0 & 6
0	3	5	6	.....	8	2 & 4	.....
1	4	6	.....	8	.....	3 & 5	.....
2	5	.....	8	.....	.....	4 & 6	.....
3	6	8	.....	10	.....	.....	.....
4	.....	.....	10	.....	.....	6 & 8	.....
5	8	10	.....	12	.....	.....	.....
6	.....	.....	12	.....	14	8 & 10	.....
8	.....	.....	14	.....	16	10 & 12	.....
10	.....	.....	16	.....	18	12 & 14	.....

CONVERSION TABLE

Diameter of a circle×3.1416=Circumference.

Radius of a circle×6.283185=Circumference.

Square of the radius of a circle×3.1416=Area.

Square of the diameter of a circle×0.7854=Area.

Square of the circumference of a circle×0.07958=Area.

Half the circumference of a circle×half its diameter=Area.

Circumference of a circle×0.159155=Radius.

Square root of the area of a circle×0.56419=Radius.

Circumference of a circle×0.31831=Diameter.

Square root of the area of a circle×1.12838=Diameter.

Diameter of a circle×0.86=Side of an inscribed equilateral triangle.

Diameter of a circle×0.7071=Side of an inscribed square.

Circumference of a circle×0.225=Side of an inscribed square.

Circumference of a circle×0.282=Side of an equal square.

Diameter of a circle×0.8862=Side of an equal square.

Base of a triangle×by one-half the altitude=Area.

Multiplying both diameter and .7854 together=Area of an ellipse.

Surface of a sphere×by one-sixth of its diameter=Solidity.

Circumference of a sphere×by its diameter=Surface.

Square of the diameter of a sphere×3.1416=Surface.

Square of the circumference of a sphere×0.3183=Surface.

Cube of the diameter of a sphere×0.5236=Solidity.

Cube of the circumference of a sphere×0.016887=Solidity.

Radius of a sphere×1.1547=Side of an inscribed cube.

Square root of (one-third of the square of) the diameter of a sphere=Side of an inscribed cube.

Area of its base×one-third of its altitude=Solidity of a cone or pyramid, whether round, square or triangular.

Area of one of its sides×6=Surface of a cube.

Altitude of trapezoid×one-half the sum of its parallel sides=Area.

USEFUL INFORMATION

COPPER BUS-BAR DATA

Sizes, Weights and Resistances

Thickness In.	Width In.	Wts. Per Ft. at 3.213 Lbs. Per Cubic Inch	Area In Square In.	Ohms Per Ft. at 8.341 Per Square Mil. Ft.	Capacity In Amperes
1/16	1/2	.1205	.0313	.00026691	30
1/16	3/4	.1807	.0469	.00017790	50
1/16	1	.2410	.0625	.00013344	60
1/16	1 1/2	.3615	.0938	.00008897	90
1/8	1/2	.2410	.0625	.00013344	75
1/8	3/4	.3615	.0938	.00008897	90
1/8	1	.4820	.125	.00006672	125
1/8	1 1/2	.7230	.1875	.00004448	200
1/8	2	.9640	.25	.00003336	250
1/4	3/4	.7230	.1875	.00004448	185
1/4	1	.9640	.25	.00003336	250
1/4	1 1/4	1.205	.3125	.00002669	315
1/4	1 1/2	1.446	3.75	.00002224	375
1/4	1 3/4	1.687	.4375	.00001906	435
1/4	2	1.928	.5	.00001668	500
1/4	2 1/4	2.169	.5625	.00001482	565
1/4	2 1/2	2.410	.625	.00001334	630
1/2	3/4	1.446	.375	.00002224	370
1/2	1	1.928	.500	.00001668	500
1/2	1 1/4	2.410	.625	.00001334	625
1/2	1 1/2	2.892	.750	.00001112	750
1/2	1 3/4	3.374	.875	.00000953	875
1/2	2	3.856	1.	.00000834	1000
1/2	2 1/4	4.338	1.125	.00000741	1185
1/2	2 1/2	4.820	1.25	.00006667	1250
1/2	2 3/4	5.304	1.375	.00000606	1375
1/2	3	5.784	1.500	.00000556	1800
1/2	3 1/4	6.266	1.625	.00000513	1625
1/2	3 1/2	6.748	1.750	.00000475	1750
1/2	3 3/4	7.23	1.875	.00000444	1875
1/2	4	7.712	2.000	.00000417	2000
3/4	1	2.892	.750	.00001112	1750
3/4	1 1/2	4.338	1.125	.00000741	1125
3/4	2	5.784	1.500	.00000556	2500
3/4	2 1/2	7.23	1.875	.00000444	2875
3/4	3	8.676	2.250	.00000370	3250
3/4	3 1/2	10.122	2.625	.00000317	2650
3/4	4 1/2	11.568	3.000	.00000278	3000

Carrying Capacity is Figured at 1,000 Amperes per Square Inch.

SPACING OF BUS-BARS

Voltage	Distance Between Bus Centers In.	Min. Distance Between Opposite Live Parts In.	Min. Distance Between Live Parts and Ground In.	Voltage	Distance Between Bus Centers In.	Min. Distance Between Opposite Live Parts In.	Min. Distance Between Live Parts and Ground In.
250	1 1/2- 2 1/2	1 -2	3/4-1 1/2	27000	14- 16	10 -12	8 - 9
650	2 - 3	1 1/2-2 1/2	1 -2	35000	18- 22	12 -15	10 -12
1100	4 - 5	1 1/2-3 1/2	1 1/2-2 1/2	44000	22- 27	16 -18	13 1/2-15
2200	5 - 6 1/2	2 3/4-4	2 -2 3/4	60000	28- 31	17 1/2-19	16 -17 1/2
4000	6 - 7 1/2	3 -4 1/2	2 1/4-3	66000	34- 38	22 -24	18 1/2-23
6600	7 - 8	3 1/2-4 1/2	2 1/2-3	75000	36- 42	26 -30	25 -27 1/2
7500	8 - 9	4 -4 1/2	2 3/4-3 1/4	90000	46- 54	32 -35	27 -29
9000	9 -10	4 1/4-4 1/2	3 -3 1/2	100000	54- 60	34 1/2-39	28 1/2-32
11000	9 -11	4 1/2-4 3/4	3 1/4-3 3/4	110000	60- 72	38 -41	33 -36
13200	9 -12	4 3/4-5	3 1/2-4 1/4	122000	66- 78	42 -47	35 1/2-39
15000	9 -14	5 -5 1/2	3 3/4-4 1/2	130000	74- 84	48 1/2-56	39 -41
16500	10 -14	5 1/2-6	4 1/2-5	150000	82- 96	59 -67	45 -50
18000	11 -14	6 -7	5 -6	160000	88-104	70 -84	53 -62
22000	12 -15	7 1/2-9	6 -7				

The Distances given for the Lower Values are Based on a Safety Factor of 3 1/2 times between Live Parts of Opposite Polarity and Safety Factor three times Between Live Parts and Grounds. The Larger Values Show Good Practice for the Larger Plants or where the Capacities are Liable to be Increased.

Tubular Buses should be used above 22,000 Volts

USEFUL INFORMATION

ALUMINUM FOR ELECTRICAL CONDUCTORS

In comparing copper and aluminum, the following properties of these metals should be noted.

	Specific Gravity	Relative Specific Gravity	Conductivity	Tensile Strength Per Square Inch
Copper	8.93	3.33	96 to 99	30000 to 65000 lbs.
Aluminum	2.68	1.	54 to 63	24000 to 55000 lbs.

Conductivity

Pure aluminum has a conductivity of about 63% of that possessed by equally pure copper; commercial aluminum in bars or wire has a conductivity of about 61% of copper; assuming a conductivity of 97% for commercial copper; hence the cross section of conductors of aluminum and copper must be in the inverse ratio of their conductivity. To determine the equivalent of a No. 00 B. & S. gauge copper wire in aluminum wire: 61:97:: 133100: 211650 or approximately a No. 0000: or establishing a ratio as follows: 61:97:: 100: 159; it will be found as an approximate rule that for equal conductivity the size of aluminum wire will be about two B. & S. gauge numbers larger than copper wire.

Weight

The comparative weights of equal volumes of copper and aluminum are: Copper, 3.33, aluminum, 1; the comparative weights for equal conductivity will be 100 x 3.33: 159 x 1:: 100: 47.74; or for equal lengths of same conductivity, aluminum weighs about 47.74% of copper.

Tensile Strength and Conductivity

The tensile strength is increased and the conductivity decreased by the alloying of aluminum with other metals; for bus-bars and other large conductors installed with frequent supports, the commercially pure aluminum is used; where subject to strains the alloyed aluminum is recommended; assuming a tensile strength of 39000 pounds square inch, the addition of 1% alloy gives a tensile strength of 45000 pounds and a conductivity of 58%; the addition of 2% alloy gives a tensile strength of 5500 pounds and a conductivity of 54%; aluminum is furnished in the percentages of alloys above noted or with any intermediate percentage. The table following gives the factors for the different conductivities of aluminum compared with 97% conductivity copper of equal resistance.

Conductivity of Aluminum	63	62	61	60	59	58	57	56	55	54
Relative Cross Section (copper equals 100)	154.	156.5	159.	161.7	164.4	167.3	170.2	173.2	176.3	179.7
Weight of Aluminum—(copper equal length and conductivity equals 100)	46.25	47.	47.74	48.55	49.38	50.24	51.11	52.02	52.97	53.95
Tensile Strength. — Factor by which to multiply the tensile strength per square inch of aluminum to obtain tensile strength per square inch of copper of equal resistance of same breaking strength	154.	156.5	159.	161.7	164.4	167.3	170.2	173.2	176.3	179.7
Price.—Factor by which to multiply copper price per pound to obtain equivalent price of aluminum, also factor by which to divide aluminum price per pound to obtain equivalent price of copper	2.16	2.13	2.1	2.06	2.03	1.99	1.96	1.92	1.89	1.85

Aluminum For Telephone Wires

The comparatively small amount of current carried on telephone wires makes the use of aluminum quite desirable for this purpose. The following table gives data for aluminum wires of varying conductivity.

Resistance and Tensile Strength of Aluminum Telephone Wire

No. in B. & S. Gauge	Diameter Mils	62 Per Cent Conductivity Resistance Per 1000 Ft. 75°F.	62 Per Cent Conductivity Tensile Strength	58 Per Cent Conductivity Resistance Per 1000 Ft. 75°F.	58 Per Cent Conductivity Tensile Strength	54 Per Cent Conductivity Resistance Per 1000 Ft. 75°F.	54 Per Cent Conductivity Tensile Strength
4	204.3	.4012	27000	.4288	33000	.4605	40000
5	181.9	.5058	27500	.5408	34000	.5818	42000
6	162.	.638	28000	.6820	35000	.7325	44000
7	144.3	.8044	29000	.8600	36000	.9235	46000
8	128.5	1.034	30000	1.105	37000	1.187	48000
9	114.4	1.278	32000	1.367	39000	1.468	50000
10	101.9	1.613	33000	1.724	40000	1.852	51000
11	90.7	2.033	35000	2.173	41000	2.335	53000
12	80.8	2.565	39000	2.741	42000	3.084	55000

USEFUL INFORMATION

COMPARATIVE RESISTANCES

Comparative resistances of various materials taking copper as 1.

To find the resistance of any wire, first get the resistance of the same length and size of copper wire, then multiply this by figure below for the wire used.

Copper	1	Advance	.28	Phosphor-Bronze	3.
Norway Iron	7	S. B.	.32	Platinum	5.5
Soft Steel	8	Climax	.50	Iron Wire (E. B. B.)	5.5
18 Per Cent German Silver	18	Silver	.98	Iron Wire (BB)	6.4
30 Per Cent German Silver	28	Aluminum	1.8	Iron Wire (Special)	7.4

18 Per Cent German Silver

Resistance per mil foot, 189 Ohms.

Temperature co-efficient .00017 per degree Fahr.

No. B.&S.	Ohms 1000 Ft.	No. B.&S.	Ohms 1000 Ft.	No. B.&S.	Ohms 1000 Ft.	No. B.&S.	Ohms 1000 Ft.	No. B.&S.	Ohms 1000 Ft.	No. B.&S.	Ohms 1000 Ft.
0	1.7	7	9.1	14	46.1	21	234	28	1192	35	6020
1	2.2	8	11.5	15	58.2	22	295	29	1480	36	7560
2	2.8	9	14.5	16	72.7	23	370	30	1890	37	9550
3	3.6	10	18.1	17	93.4	24	468	31	2386	38	12038
4	4.5	11	22.8	18	118.	25	590	32	2950	39	15240
5	5.7	12	28.8	19	146.	26	749	33	3740	40	19285
6	7.2	13	36.5	20	184.	27	936	34	4760	----	----------

Tensile Strength of Copper Wire

Size, Wire B.&S.	Breaking Wt., Lbs. Hard-Drawn	Breaking Wt., Lbs. Annealed	Size, Wire B.&S.	Breaking Wt., Lbs. Hard-Drawn	Breaking Wt., Lbs. Annealed	Size, Wire B.&S.	Breaking Wt., Lbs. Hard-Drawn	Breaking Wt., Lbs. Annealed
0000	9971	5650	5	1559	883	13	244	138
000	7907	4480	6	1237	700	14	193	109
00	6271	3553	7	980	555	15	153	87
0	4973	2818	8	778	440	16	133	69
1	3943	2234	9	617	349	17	97	55
2	3127	1772	10	489	277	18	77	43
3	2480	1405	11	388	219	19	61	34
4	1967	1114	12	307	174	20	48	27

Properties of Climax Resistance Wire

Resistance per mil foot at 75° Fahr.—525 Ohms.

Temperature co-efficient .0004 per degree Fahr.

Specific gravity, 8.137.

No. B.&S	Diam. in.	Area In Cir. Mils C.M.=D2	Resistance per 1000 Ft. at 75°F.	Wt.Lbs. Per 1000 Ft. Bare	Ohms Per Lb.	No. B.&S.	Diam. In.	Area In Cir. Mils C.M.=D2	Resistance Per 1000 Ft. at 75°F.	Wt.Lbs. Per 1000 Ft. Bare	Ohms Per Pound
1	.289	83521	6.2	231.	.026	21	.0285	812.3	646	2.24	284
2	.258	66564	7.9	184.	.041	22	.0253	640.1	820	1.77	456
3	.229	52441	10.	145.	.066	23	.0226	510.8	1027	1.41	720
4	.204	41616	12.6	115.	.105	24	.0201	404.	1290	1.12	1142
5	.182	33124	15.8	92.	.165	25	.0179	320.4	1640	.89	1810
6	.162	26244	20.	73.	.263	26	.0159	252.8	2080	.70	2920
7	.144	20736	25.3	57.	.427	27	.0142	201.6	2580	.56	4570
8	.128	16384	32.	45.	.685	28	.0126	158.8	3300	.44	7400
9	.116	12996	40.4	36.	1.08	29	.0113	127.7	4100	.35	11560
10	.102	10404	50.4	29.	1.65	30	.010	100.	5250	.276	18785
11	.091	8281	63.4	23.	2.70	31	.0089	79.2	6620	.219	29800
12	.081	6561	80.	18.	4.27	32	.008	64.	8200	.177	45265
13	.072	5184	101.	14.3	6.85	33	.0071	50.4	10410	.139	73214
14	.064	4096	128.	11.3	10.9	34	.0063	39.7	13220	.11	118300
15	.057	3249	161.	9.2	16.9	35	.0056	31.4	16720	.087	189000
16	.051	2601	202.	7.2	27.	36	.005	25.	21000	.069	300000
17	.045	2025	258.	5.6	44.5	37	.0045	20.2	26000	.056	468000
18	.040	1600	328.	4.42	71.3	38	.004	16.	33000	.045	733000
19	.036	1296	404.	3.58	108.	39	.0035	12.2	43000	.034	1264000
20	.032	1024	510.	2.83	174.	40	.003	9.	58000	.025	2320000

USEFUL INFORMATION

WEIGHTS ON WIRE

Table of Sizes, Weights and Lengths of Iron and Steel Wire

Size A.S. & W. Gauge	Diam. In.	Diameter Inches	Area Sq. Inches	Wt. Lbs. per Foot	Wt. Lbs. per Mile	Feet per Lb.	Feet per 2,000 Lbs.
.....	....	.500	.19635	.6625	3498.00	1.50	3018
0000000	1/2	.490	.18857	.6363	3359.66	1.51	3023
.....	....	.468	.17202	.5804	3064.51	1.72	3445
000000	15/32	.460	.16619	.5608	2961.02	1.78	3566
.....	....	.437	.14998	.5061	2672.21	1.97	3952
00000	7/16	.430	.14532	.4901	2587.72	2.04	4081
.....	....	.406	.12946	.4368	2306.30	2.28	4578
0000	13/32	.393	.12130	.4094	2161.63	2.44	4885
.....	....	.375	.11044	.3726	1967.33	2.68	5367
000	3/8	.362	.10292	.3473	1833.74	2.87	5758
.....	....	.343	.09240	.3117	1645.78	3.20	6412
00	11/32	.331	.08604	.2904	1533.31	3.44	6887
.....	....	.312	.07645	.2579	1361.71	3.87	7755
0	5/16	.307	.07402	.2497	1318.41	4.00	8011
1	....	.283	.06290	.2123	1120.94	4.71	9420
.....	....	.281	.06210	.2092	1104.57	4.78	9560
2	9/32	.263	.05432	.1834	968.35	5.45	10905
.....	....	.250	.04908	.1656	874.36	6.03	12077
3	1/4	.244	.04675	.1578	733.18	6.33	12674
4	....	.225	.03976	.1342	708.57	7.45	14903
.....	....	.218	.03732	.1259	664.75	7.94	15885
5	7/32	.207	.03365	.1135	559.28	8.81	17621
6	....	.192	.02895	.0977	515.85	10.23	20471
.....	....	.187	.02746	.0926	488.92	10.79	21598
7	3/16	.177	.02460	.0830	438.24	12.04	24096
8	....	.162	.02061	.0696	367.48	14.36	28735
.....	....	.156	.01911	.0644	340.03	15.52	31056
9	5/32	.148	.01720	.0580	306.24	17.24	34482
10	....	.135	.01431	.0483	255.02	20.70	41408
.....	....	.125	.01227	.0414	218.59	24.15	48309
11	1/8	.120	.01130	.0382	201.69	26.17	52356
12	....	.105	.00865	.0292	154.17	34.24	68493
.....	....	.093	.00679	.0229	120.91	43.66	87336
13	3/32	.092	.00664	.0224	118.27	44.64	89286
14	....	.080	.00502	.0169	89.23	59.17	118343
15	....	.072	.00407	.0137	72.33	72.99	145985
16	....	.063	.00311	.0105	55.44	95.23	190476
.....	....	.062	.00302	.0101	53.32	99.00	198020
17	1/16	.054	.00229	.00772	40.76	129.53	259068
18	....	.047	.00173	.00585	30.89	170.94	341882
19	....	.041	.00132	.00445	23.49	224.71	449438
20	....	.035	.00096	.00324	17.10	308.66	617328
21	....	.032	.00080	.00271	14.30	369.00	738008
.....	....	.031	.00075	.00250	13.20	400.00	800000
22	1/32	.028	.00061	.00207	10.92	483.09	966184
23	....	.025	.00049	.00165	8.71	606.06	1212120
24	....	.023	.00041	.00140	7.39	714.28	1428570
25	....	.020	.00031	.00106	5.59	943.39	1886792
26	....	.018	.00025	.00085	4.48	1176.47	2352940
27	....	.017	.00022	.00076	4.01	1315.79	2631580
28	....	.016	.00020	.00067	3.53	1492.54	2985080
29	....	.015	.00017	.00059	3.11	1694.91	3389820
30	....	.014	.00015	.00051	2.69	1960.78	3921560
31	....	.0135	.00014	.00048	2.53	2083.34	4166680
32	....	.013	.00013	.00044	2.32	2272.73	4545460
33	....	.011	.00009	.00032	1.68	3125.00	6250000
34	....	.010	.00008	.00026	1.37	3846.15	7692300
35	....	.0095	.00007	.00023	1.21	4347.82	8695640
36	....	.009	.00006	.00021	1.10	4761.91	9523820

USEFUL INFORMATION

AREA OF CIRCLES

Diameter	Area	Diameter	Area	Diameter	Area
⅛	0.0123	16	201.06	54	2290.2
¼	0.0491	16½	213.82	55	2375.8
⅜	0.1104	17	226.98	56	2463.0
½	0.1963	17½	240.52	57	2551.7
⅝	0.3068	18	254.46	58	2642.0
¾	0.4418	18½	268.80	59	2733.9
⅞	0.6013	19	283.52	60	2827.4
1	0.7854	19½	298.64	61	2922.4
1⅛	0.9940	20	314.16	62	3019.0
1¼	1.227	20½	330.06	63	3117.2
1⅜	1.484	21	346.36	64	3216.9
1½	1.767	21½	363.05	65	3318.3
1⅝	2.073	22	380.13	66	3421.2
1¾	2.405	22½	397.60	67	3525.6
1⅞	2.761	23	415.47	68	3631.6
2	3.141	23½	433.73	69	3739.2
2¼	3.976	24	452.29	70	3848.4
2½	4.908	24½	471.43	71	3959.2
2¾	5.939	25	490.87	72	4071.5
3	7.068	26	530.93	73	4185.4
3¼	8.295	27	572.55	74	4300.8
3½	9.621	28	615.75	75	4417.8
3¾	11.044	29	660.52	76	4536.4
4	12.566	30	706.86	77	4656.6
4½	15.904	31	754.76	78	4778.3
5	19.635	32	804.24	79	4901.6
5½	23.758	33	855.30	80	5026.5
6	28.274	34	907.92	81	5153.0
6½	33.183	35	962.11	82	5281.0
7	38.484	36	1017.8	83	5410.6
7½	44.178	37	1075.2	84	5541.7
8	50.265	38	1134.1	85	5674.5
8½	56.745	39	1194.5	86	5808.8
9	63.617	40	1256.6	87	5944.6
9½	70.882	41	1320.2	88	6082.1
10	78.54	42	1385.4	89	6221.1
10½	86.59	43	1452.2	90	6361.7
11	95.03	44	1520.5	91	6503.9
11½	103.86	45	1590.4	92	6647.6
12	113.09	46	1661.9	93	6792.9
12½	122.71	47	1734.9	94	6939.8
13	132.73	48	1809.5	95	7088.2
13½	143.13	49	1885.7	96	7238.2
14	153.93	50	1963.5	97	7389.8
14½	165.13	51	2042.8	98	7542.9
15	176.71	52	2123.7	99	7697.7
15½	188.69	53	2206.1	----	----------

To compute the area of a diameter greater than any in the above table:

Rule:—Divide the dimension by 2, 3, 4, etc., if practicable, until it is reduced to a quotient to be found in the table; then multiply the tabular area of the quotient by the square of the factor. The product will be the area required.

Example:—What is the area of diameter of 150? 150÷5=30. Tabular area of 30=706.86, which ×25=17,671.5, area required.

HYDRAULICS

Lbs. per sq. in.=0.434 times head of water in feet.

Head in feet=2.3×pounds per sq. in.

Weight per cu. ft. of water=62.4 lbs.

Weight per gallon of water=8.33 lbs.

If L is the length of a pipe, D is its diameter (both in feet) and V the velocity of flow of liquid in feet per second, the loss of head due to friction, or the friction head, is

$$H=\frac{.02LV_2}{64.4\,D}$$

The total head to be pumped against is considered equal to the sum of the friction head and the actual head.

TABLE SHOWING THE DIFFERENCES BETWEEN WIRE GAUGES

Nos.	Brown & Sharpe's	Old English or London	Stubs' or Birmingham	New British Standard
0000	.460	.454	.454	.400
000	.40964	.425	.425	.372
00	.36480	.380	.380	.348
0	.32486	.340	.340	.324
1	.28930	.300	.300	.300
2	.25763	.284	.284	.276
3	.22942	.259	.259	.252
4	.20431	.238	.238	.232
5	.18194	.220	.220	.212
6	.16202	.203	.203	.192
7	.14428	.180	.180	.176
8	.12849	.165	.165	.160
9	.11443	.148	.148	.144
10	.10189	.134	.134	.128
11	.09074	.120	.120	.116
12	.08081	.109	.109	.104
13	.07196	.095	.095	.092
14	.06408	.083	.083	.080
15	.05706	.072	.072	.072
16	.05082	.065	.065	.604
17	.04525	.058	.058	.056
18	.04030	.049	.049	.048
19	.03589	.042	.042	.040
20	.03196	.035	.035	.036
21	.02846	.0315	.032	.032
22	.025347	.0295	.028	.028
23	.022571	.027	.025	.024
24	.0201	.025	.022	.022
25	.0179	.023	.020	.020
26	.01594	.0205	.018	.018
27	.014195	.01875	.016	.016.4
28	.012641	.0165	.014	.014.8
29	.011257	.0155	.013	.013.6
30	.010025	.01375	.012	.012.4
31	.008928	.01225	.010	.011.6
32	.00795	.01125	.009	.010.8
33	.00708	.01025	.008	.010
34	.0063	.0095	.007	.009.2
35	.00561	.009	.005	.008.4
36	.005	.075	.004	.007.6
37	.00445	.0065	------	------
38	.003965	.00575	------	------
39	.003531	.005	------	------
40	.003144	.0045	------	------

The Brown and Sharpe (B. & S.) Wire Gauge, sometimes called American Wire Gauge (A. W. G.), is generally used in the United States. Other gauges and their comparative diameters are also given in the above table; dimensions of wire are given in decimal parts of an inch.

WEIGHTS AND SPEEDS OF FLYWHEELS

To obtain the weight of rim flywheels in pounds, find the volume of the rim in cubic feet and multiply by 450, the weight of a cubic foot of iron. To allow for the arms, weight must be added as follows:

For wheels up to 8 ft. diameter add 30% of rim weight.

For wheels from 8 ft. to 12 ft. add 40% of rim weight.

For wheels above 12 ft. add 30% of rim weight.

The limiting peripheral speeds for flywheels are as follows:

Cast iron.....5000 to 6000 ft. per minute.
Cast steel.....10,000 ft. per minute.
Riveted boiler plate..20,000 to 25,000 ft. per min.

USEFUL INFORMATION

UNITS OF MEASURE

The electrical units are derived from the following mechanical units of the metric system:

METER.—A unit of length equal, approximately, to one ten-millionth part of a quadrant of a meridian of the earth taken through Paris; or, approximately, to 39.37 inches.

GRAMME.—Unit of weight. Weight of a cubic centimeter of water at a temperature of 4 degrees centigrade.

SECOND.—Unit of time. The time of one swing of a pendulum making 86,400 swings in a solar day.

ELECTRICAL UNITS

VOLT.—Such an electromotive force as would cause a current of one ampere to flow against a resistance of one ohm. Such an electromotive force as would charge a condenser of the capacity of one farad with a quantity of electricity equal to one coulomb.

OHM.—The practical unit of electric resistance. Such a resistance as would limit the flow of electricity under an electromotive force of one volt, to a current of one ampere, or one coulomb per second.

MEGOHM.—1,000,000 ohms.

AMPERE.—The practical unit of electric current. A rate of flow of electricity transmitting one coulomb per second. The current of electricity which would pass through a circuit whose resistance is one ohm, under an electromotive force of one volt.

COULOMB.—The practical unit of electric quantity. Such a quantity of electricity as would pass in one second through a circuit conveying one ampere. The quantity of electricity contained in a condenser of one farad capacity, when subjected to the E. M F. of one volt.

FARAD.—The practical unit of electric capacity. Such a capacity of a conductor or condenser that one coulomb of electricity is required to produce therein a difference of potential of one volt.

MICROFARAD (MFD).—One-millionth of a farad.

WATT.—A unit of electric power. A volt-ampere. The power developed when 44.25 foot-pounds of work are done in a minute, or 0.7375 foot-pound of work is done in a second.

JOULE.—A volt-coulomb or unit of electric energy or work. The amount of electric work required to raise the potential of one coulomb of electricity one volt. Ten million ergs.

OHM'S LAW

Ohm's law is a method of expressing relationship existing between the electromotive force, current and resistance, and is practically the basis of most electrical computations. It is expressed in various forms, as follows:

$$\text{Current Flow} = \frac{\text{Electromotive Force}}{\text{Resistance}} \text{ or, } I = \frac{E}{R}$$

Electromotive force equals the current flow multiplied by resistance.

$$\text{Electromotive Force} = \text{Current Flow} \times \text{Resistance, or } E = I \times R$$

Resistance equals the electromotive force divided by the current flow.

$$\text{Resistance} = \frac{\text{Electromotive Force}}{\text{Current Flow}} \text{ or, } R = \frac{E}{I}$$

I=Amperes E=Volts. R=Ohms.

Electromotive force varies directly as the current and resistance.
Resistance varies directly with the electromotive force and inversely as the current.
Current varies directly with the electromotive force and inversely as the resistance.

MIL

The "mil" whose expressed value is $\frac{\text{One}}{\text{One-Thousandth}}$ (.001) of an inch, is the practical basis for determining the diameters and thereby the area of all wires used as electric conductors. The diameters being given, the area is obtained by the well known rule, "the area of a circle, in circular units, is equal to the square of its diameter"; hence the square of the diameter of a wire expressed in mils equals the area of its cross section.

$D^2 = A$, which area is expressed in Circular Mils or CM, hence $D^2 = CM$.

WIRING FORMULA

Ohm's law is practically the basis for the various formulae in general use for determining the proper size of wire to use to carry various currents. It is essential to know the amount of current expressed in amperes, the distance, and to decide upon the loss to allow in transmission; the best rule is as follows:

The cross section (CM) of the necessary wire is found by multiplying twice the distance one way (2D) by the amount of current expressed in amperes (C) and this by the resistance of one mil-foot (10.7) and dividing by the loss in transmission expressed in volts (v).

$$\text{or, } CM = \frac{2D \times C \times 10.7}{V} \quad \text{or, } CM = \frac{D \times C \times 21.4}{V}$$

USEFUL INFORMATION

TABLE CONVERTING FRACTIONS TO DECIMALS

Fraction (1 ½ ¼ ⅛ 1/16 1/32 1/64)	Decimal Equiv.	Fraction (1 ½ ¼ ⅛ 1/16 1/32 1/64)	Decimal Equiv.
	1=.015625		33=.515625
	2=.03125		34=.53125
	3=.046875		35=.546875
1	4=.0625	17	36=.5625
	5=.087125		37=.578125
	6=.09375	19	38=.59375
	7=.109375		39=.609375
2	8=.125	10 20	40=.625
	9=.140625		41=.640625
5	10=.15625	21	42=.65625
	11=.171875		43=.671875
3 6	12=.1875	11 22	44=.6875
	13=.203125		45=.703125
7	14=.21875	23	46=.71875
	15=.234375		47=.734375
4 8	16=.25	12 24	48=.75
	17=.265625		49=.765625
9	18=.28125	25	50=.78125
	19=.296875		51=.796875
5 10	20=.3125	13 26	52=.8125
	21=.328125		53=.828125
11	22=.34375	27	54=.84375
	23=.359375		55=.859375
6 12	24=.375	14 28	56=.875
	25=.390625		57=.890625
13	26=.40625	29	58=.90625
	27=.421875		59=.921875
7 14	28=.4375	15 30	60=.9375
	29=.453125		61=.953125
15	30=.46875	31	62=.96875
	31=.484375		63=.984375
8 16	32=.5	32	64=1.000000

Example of the Use of Fraction and Decimal Table

What is the Largest Twin Parallel Conductor that can be Drawn through a 3-4 Inch Conduit? Look down the Column of Quarters (¼) for 3, the Decimal is .75, Single is ½ Diameter of Twin, ½ of .75=.375. Look in our Over All Diameter Column of Stranded Wires for the next smaller Decimal to .375; we find .351 against No. 7, Stranded, or .350 for No. 6, Solid.

DECIMAL EQUIVALENTS OF FRACTIONAL PARTS OF A FOOT

Parts of a Foot	Decimal Equiv.	Parts of a Foot	Decimal Equiv.	Parts of a Foot	Decimal Equiv.
12 In.	1.0000	5 In.	.4166	5/8 In.	.05208
11 In.	.9166	4 In.	.3333	½ In.	.04166
10 In.	.833	3 In.	.2500	3/8 In.	.03125
9 In.	.75	2 In.	.1666	¼ In.	.02083
8 In.	.6666	1 In.	.0833	1/8 In.	.010416
7 In.	.5833	7/8 In.	.07291	1/16 In.	.005208
6 In.	.5000	¾ In.	.0625		

METRIC CONVERSION TABLE

SIMPLE UNITS

Length

Cm.=.3937 In.	In.=2.54 Cm.
Metre=3.28 Ft.	Ft.=.305 Metre
Metre=1.09 Yds.	Yd.=.914 Metre
Kilom.=.621 Mile	Mile=1.61 Kiloms.

Area

Sq. Cm.=.155 Sq. In.	Sq. In.=6.452 Sq. Cms.
Sq. M.=10.764 Sq. Ft.	Sq. Ft.=.0929 Sq. M.
Sq. M.=1.196 Sq. Yds.	Sq. Yd.=.836 Sq. M.
Sq. Kilom.=.386 Sq. Mi.	Sq. Mi.=2.59 Sq. Kiloms.

Volume

Cu. Cm.=.061 Cu. In.	Cu. In.=16.4 Cu. Cms.
Cu. M.=35.29 Cu. Ft.	Cu. Ft.=.028 Cu. M.
Cu. M.=1.308 Cu. Yds.	Cu. Yd.=.765 Cu. M.

Capacity

Litre=.0353 Cu. Ft.	Cu. Ft.=28.32 Litres
Litre=.2642 Gal. (U.S.)	Gal.=3.785 Litres
Litre=61.023 Cu. In.	Cu. In.=.0164 Litre

(Litre=2.202 Lbs. of Water at 62° F.)

Weight

Gram=15.432 Grains	Grain=.0648 Gram
Gram=0.353 Ounce	Ounce=28.35 Grams
Kilog'm=2.205 Lbs.	Lb.=.454 Kilog'm
Kilog'm=.0011 Ton	Ton=907.03 Kilog'ms
Tonne=1.1025 Ton	Ton=.907 Tonne

(Ton=2000 Lbs.)

COMPOUND UNITS

Pressure

Kilog'm per Sq. Cm.=14.225 Lbs. per Sq. In.
Lb. per Sq. In.=.0703 Kilog'm per Sq. Cm.
Kilog'm per Sq. M.=.205 Lb. per Sq. Ft.
Lb. per Sq. Ft.=4.88 Kilog'ms per Sq. M.
Kilog'm per Sq. Cm.=.968 Atmosphere
Atmosphere=1.033 Kilog'ms per Sq. Cm.

Weight

Gram per Cu. Metre=.437 Grain per Cu. Ft.
Grain per Cu. Ft.=2.288 Gram per Cu. M.
Kilog'm per Cu. M.=.0624 Lb. per Cu. Ft.
Lb. per Cu. Ft.=16.02 per Kilog'm Cu. M.
Kilog'm per Litre=8.33 Lbs. per U.S. Gal.
Lb. per Gal.=.12 Kilog'm per Litre

Heat

Centigrade (Deg.)=5–9 Fahr. Deg.—32
Fahrenheit (Deg.)=9–5 Cent. Deg.+32
Calorie=3.968 B. T. U.
B. T. U.=.252 Calorie
Calorie per Kilog'm=1.8 B. T. U. per Lb.
B. T. U. per Lb.=.5556 Calorie per Kilog'm
Cal. per Litre=112.366 B. T. U. per Cu. Ft.
B. T. U. per Cu. Ft.=.00889 Cal. per Litre
Calorie per Cu. M.=8.99 B. T. U. per Cu. Ft
B. T. U. per Cu. Ft.=.1125 Cal. per Cu. M.

Miscellaneous

Kilogram-Metre=7.233 Ft. Lbs.
Ft. Lb.=.1384 Kilogram-Metre
Cheval (French H. P.)=.986 H. P.
H. P.=1.014 Cheval
Litre per Second=2.12 Cu. Ft. per Minute
Litre per Second=4.74 U.S. Gal. per Min.
Litre per Cu. Metre=.798 U.S. Gal. per Cu. Ft.
Gal. per Cu. Ft.=1.254 Litres per Cu. Metre

USEFUL INFORMATION

MELTING POINT AND RELATIVE CONDUCTIVITY OF DIFFERENT METALS AND ALLOYS

Metals	Relative Conductivity	Melting Point ° F.
Pure silver	100.0	1873
Pure copper	100.0	2550
Refined and crystallized copper	99.9	.....
Telegraphic silicious bronze	98.0	.....
Alloy of copper and silver (50%)	86.65	.....
Pure gold	78.0	2016
Silicide of copper, 4% Si.	75.0	.....
Silicide of copper, 12% Si.	54.7	.....
Pure aluminum	54.2	1160
Tin with 12% of sodium	46.9	.....
Telephonic silicious bronze	35.0	.....
Copper with 10% of lead	30.0	.....
Pure zinc	29.9	773
Telephonic phosphor-bronze	29.0	.....
Silicious brass, 25% zinc	26.4	.....
Brass with 35% zinc	21.59	.....
Phosphor-tin	17.7	.....
Alloy of gold and silver (50%)	16.12	.....
Swedish iron	16.4	4000
Pure Banca tin	15.5	442
Antimonial copper	12.7	.....
Aluminum bronze (10%)	12.6	.....
Siemens steel	12.0	.....
Pure platinum	10.6	4100
Copper with 10% of nickel	10.6	.....
Cadmium Amalgam (15%)	10.2	.....
Dronier mercurial bronze	10.14	.....
Arsenical copper (10%)	9.1	.....
Pure lead	8.88	630
Bronze with 20% tin	8.4	.....
Pure nickel	7.89	2800
Phosphor-bronze, 10% tin	6.5	.....
Phosphor-copper, 9% phos.	4.9	.....
Antimony	3.88	840

CURRENT REQUIRED TO FUSE WIRES, COPPER, GERMAN SILVER AND IRON

B. & S. Gauge	Copper, Amperes	German Silver, Amperes	Iron, Amperes
10	333.0	169.0	101.0
11	284.0	146.0	86.0
12	235.0	120.7	71.2
13	200.0	102.6	63.0
14	166.0	85.2	50.2
15	139.0	71.2	42.1
16	117.0	60.0	35.5
17	99.0	50.4	32.6
18	82.8	42.5	25.1
19	66.7	43.2	20.2
20	58.3	29.9	17.7
21	49.3	25.3	14.9
22	41.2	21.1	12.5
23	34.5	17.7	10.9
24	28.9	14.8	8.76
25	24.6	12.6	7.46
26	20.6	10.6	6.22
27	17.7	9.1	5.36
28	14.7	7.5	4.45
29	12.5	6.41	3.79
30	10.25	5.26	3.11
31	8.75	4.49	2.65
32	7.26	3.73	2.2
33	6.19	3.18	1.88
34	5.12	2.64	1.55
35	4.37	3.24	1.33
36	3.62	1.86	1.09
37	3.08	1.58	.93
38	2.55	1.31	.77
39	2.20	1.13	.67
40	1.86	.95	.56

COMPARISON OF CENTIGRADE AND FAHRENHEIT THERMOMETER SCALES

Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.
0	32.0	26	78.8	52	125.6	78	172.4
1	33.8	27	80.6	53	127.4	79	174.2
2	35.6	28	82.4	54	129.2	80	176.0
3	37.4	29	84.2	55	131.0	81	177.8
4	39.2	30	86.0	56	132.8	82	179.6
5	41.0	31	87.8	57	134.6	83	181.4
6	42.8	32	89.6	58	136.4	84	183.2
7	44.6	33	91.4	59	138.2	85	185.0
8	46.4	34	93.2	60	140.0	86	186.8
9	48.2	35	95.0	61	141.8	87	188.6
10	50.0	36	96.8	62	143.6	88	190.4
11	51.8	37	98.6	63	145.4	89	192.2
12	53.6	38	100.4	64	147.2	90	194.0
13	55.4	39	102.2	65	149.0	91	195.8
14	57.2	40	104.0	66	150.8	92	197.6
15	59.0	41	105.8	67	152.6	93	199.4
16	60.8	42	107.6	68	154.4	94	201.2
17	62.6	43	109.4	69	156.2	95	203.0
18	64.4	44	111.2	70	158.0	96	204.8
19	66.2	45	113.0	71	159.8	97	206.6
20	68.0	46	114.8	72	161.6	98	208.4
21	69.8	47	116.6	73	163.4	99	210.2
22	71.6	48	118.4	74	165.2	100	212.0
23	73.4	49	120.2	75	167.0	.....	.....
24	75.2	50	122.0	76	168.8	.....	.....
25	77.0	51	123.8	77	170.6	.....	.....

Temperature corrections based on room temperature of 25° C. If the temperature of room during a test differs from 25° C., corrections should be made by changing the observed rise of temperature by one-half per cent for each degree C. Thus with a room temperature of 35° C. the observed rise has to be decreased by 5 per cent, and with a room temperature of 15° C. the observed rise has to be increased by 5 per cent.

CONDUCTIVITIES

Metal	At 0° C. At 32° F.	At 100° C. At 212° F.
Silver	100.0	71.56
Copper, Hard	99.95	70.27
Gold, Hard	77.96	55.90
Zinc, Pressed	29.02	20.67
Cadmium	23.72	16.77
Platinum, Soft	18.00	.....
Iron, Soft	16.80	.....
Tin	12.36	8.67
Lead	8.32	5.86
Arsenic	4.76	3.33
Antimony	4.62	3.26
Mercury, Pure	1.60	.....
Bismuth	1.245	0.878

The Conductance of a piece of any Metal 1 Cm. Long and 1 Sq. Cm. in Cross-Section is called its Specific Conductance or Conductivity. Conductance is the Reciprocal of Resistance, and Conductivity is the Reciprocal of Resistivity. If the Resistance of 2 Cm. of a piece of any Metal having a Uniform Cross Sectional Area of 1 Sq. Cm. is 4 ohms, its Resistivity is 2 ohms, Conductance ¼ Mho (Ohm Spelled Backwards) and its Conductivity ½ Mho. Percentage Conductivity of a Substance is the Ratio of its Conductivity to that of the Standard at the same Temperature. The Conductivity of Matthiessen's Pure Copper at 0° C. is usually taken as the Standard, 100 per cent.

STANDARD PIPE SIZE COPPER TUBING

Size of Tube I.P.S.	Diam. of Tube, Inches		Wall Thickness Inches	Area of Section Square Inches	Wt. per Foot in Pounds Copper	Moment of Inertia Inches	Section Modulus Inches	Resistance per foot Microhms Copper	*Bare Copper Ampere Rating Indoor	†Bare Copper Ampere Rating Outdoor
	Outside	Inside								
¼	0.540	0.375	0.0825	0.118	0.458	0.0032	0.0119	70.10	240	320
⅜	0.675	0.494	.0905	.166	.642	.0073	.0215	50.02	310	415
½	0.840	0.625	.1075	.247	.956	.0170	.0404	33.60	410	550
¾	1.050	0.822	.1140	.335	1.30	.0373	.0710	24.79	515	680
1	1.315	1.062	.1265	.472	1.83	.0843	.1283	17.60	675	860
1¼	1.660	1.368	.1460	.694	2.68	.2008	.2420	11.97	875	1130
1½	1.900	1.600	.1500	.824	3.19	.3180	.3347	10.08	1025	1285
2	2.375	2.062	.1565	1.091	4.21	.6744	.5679	7.62	1300	1585
2½	2.875	2.500	.1875	1.583	6.12	1.436	.9991	5.25	1700	2010
3	3.500	3.062	.2190	2.257	8.72	3.051	1.743	3.68	2175	2560
3½	4.000	3.500	.2500	2.945	11.38	5.200	2.600	2.82	2525	3040
4	4.500	4.000	.2500	3.338	12.90	7.563	3.361	2.49	2850	3400
5	5.563	5.063	.2500	4.173	16.12	14.76	5.305	1.99	3425	4100
6	6.625	6.125	.2500	5.007	19.35	25.47	7.690	1.66	4150	4750

EXTRA HEAVY PIPE SIZE COPPER TUBING

¼	0.540	0.294	0.123	0.161	0.624	0.0038	0.0141	50.03	280	375
⅜	0.675	0.421	0.127	0.218	0.847	.0087	.0256	36.87	355	475
½	0.840	0.542	0.149	0.323	1.253	.0202	.0481	24.68	460	620
¾	1.050	0.736	0.157	0.440	1.706	.0451	.0859	18.30	575	770
1	1.315	0.951	0.182	0.647	2.509	.1067	.1619	12.44	750	1010
1¼	1.660	1.272	0.194	0.893	3.460	.244	.294	9.01	1000	1270
1½	1.900	1.494	0.203	1.082	4.191	.395	.416	7.44	1150	1460
2	2.375	1.933	0.221	1.495	5.791	.875	.737	5.39	1500	1850
2½	2.875	2.315	0.280	2.282	8.839	1.940	1.35	3.52	1975	2390
3	3.500	2.892	0.304	3.052	11.82	3.922	2.24	2.63	2475	3000
3½	4.000	3.358	0.321	3.710	14.37	6.344	3.17	2.17	2875	3410
4	4.500	3.818	0.341	4.455	17.25	9.714	4.32	1.82	3225	3880
5	5.563	4.813	0.375	6.112	23.67	20.67	7.43	1.32	4300	5000
6	6.625	5.761	0.432	8.405	32.93	40.59	12.20	.96	5100	5850

To obtain aluminum tubing wt., multiply equivalent copper section weight by 0.304. For aluminum resistance per foot, multiply equivalent copper section resistance by 1.624.

For same size conductors having different conductivity values, relative standard current ratings based on same temp. rise can be approximated by using the following percentages.

FOR COPPER AND COPPER ALLOYS						FOR ALUMINUM	
Percent Conductivity	Relative Current Rating	Percent Conductivity	Relative Current Rating	Percent Conductivity	Relative Current Rating	Percent Conductivity	Relative Current Rating
100	1.00	80	.91	65	.80	61	.78
95	.98	75	.88	50	.77	55	.74
90	.96	70	.86	55	.74	50	.71
85	.94	65	.83	..	...	..	...

Ampere ratings in bold face type from NEMA Electric Power Connector Standards Publication 37-47, SG10-55, SG10-56. Other values calculated on same basis as NEMA values.

CURRENT RATINGS

*Standard 60 cycle current ratings for indoor service are based on 30° C. temp. rise above a 40° C. ambient for 98% conductivity I.A.C.S. copper conductors. (NEMA—SG10-55).

†For outdoor service, advantage may be taken of favorable conditions, air currents, weathering of copper, etc., permitting the nominal values given for 98% conductivity I.A.C.S. copper. (NEMA—SG10-56).

NOTE: Since it is impractical to duplicate weather conditions taken into account when establishing outdoor ratings, check tests should be made on indoor basis.

TUBING BUS

Used in outdoor substations with limited ground areas and steel weight. Advantages: ease in connecting with clamp type fittings; self-supporting bends and taps; minimum number of supports; resistance to deflection equal in all planes; high conductivity with minimum weight; easy future extensions.

Copper available in three weights: standard, extra-heavy, double extra-heavy. In two strengths — high conductivity, 98 to 99%, deoxidized 80%. Deoxidized preferable where mechanical considerations are more important than conductivity. Aluminum tubing is available in two weights, standard and extra-heavy, average conductivity of 60% I.A.C.S.

USEFUL INFORMATION

MEASURES AND WEIGHTS

Linear Measure

12 inches=1 foot 3 feet=1 yard 5½ yards=1 rod
40 rods=1 furlong 8 furlongs=1 mile

Equivalent Values

Inches	Feet	Yards	Rods	Furl'gs	Miles
36=	3=	1			
198=	16.5=	5.5=	1		
7,920=	660=	220=	40	= 1	
63,360=	5,280=	1,760=	320	= 8	= 1

Square Measure

144 square inches=1 square foot
9 square feet=1 square yard
30¼ square yards=1 square rod
160 square rods=1 acre
640 acres=1 square mile

Equivalent Values

Square mile	Acres	Square rods	Square yards
1 =	640 =	102,400 =	3,097,600

Square mile	Square feet	Square inches
1 =	27,878,400 =	4,014,489,600

Cubic Measure

1,728 cubic inches=1 cubic foot
27 cubic feet=1 cubic yard
128 cubic feet=1 cord
24¾ cubic feet=1 perch
1 cubic yard=27 cubic feet=46,656 cubic inches

Weight—Avoirdupois

437½ grains=1 ounce 16 ounces=1 pound
100 pounds=1 hundredweight
2,000 pounds=1 ton 2,240 pounds=1 long ton
1 ton=20 cwt.=2,000 pounds=32,000 ounces=14,000,000 grains
1 pound av.=7,000 grains

Weight—Troy

24 grains=1 pennyweight 20 pennyweights=1 ounce
12 ounces=1 pound
1 pound=12 ounces=240 pennyweights=5,760 grains

Dry Measure

2 pints=1 quart 8 quarts=1 peck
4 pecks=1 bushel
1 bushel=4 pecks 4 pecks=32 quarts=64 pints
U. S. Bushel=2,150.42 cu. in.
British=2,218.19 cu. in.

Liquid Measure

4 gills=1 pint 4 quarts=1 gallon
2 pints=1 quart 31½ gallons=1 barrel
63 gallons or 2 barrels=1 hogshead
1 hogshead=2 barrels=63 gallons=252 quarts=504 pints=2,016 gills
The U. S. gallon contains 231 cu. in.=.134 cu. ft.
1 cubic foot=7.481 gallons and weighs at 39.2 deg. Fahr. 62.425 lbs.
1 gallon weighs 8.45 lbs.
(For ordinary work 1 cu. ft. is considered 7½ gals. 1 gal. 8⅓ lbs.)

MEASURES AND WEIGHTS

Measure of Angles or Arcs

60 seconds=1 minute
60 minutes=1 degree
90 degrees=1 right angle or quadrant
360 degrees=1 circle
1 circle=360°=21,600′=1,296,000″
1 minute of arc on the earth's surface=1 nautical mile=1.17 times a land mile or 6,080 feet

Mariners' Measure

6 feet=1 fathom 5,280 feet=1 stat. mile
120 fathoms=1 cable length
6,085 feet=1 nautical mile
7½ cable lengths=1 mile

Miscellaneous

3 inches=1 palm 18 inches=1 cubit
4 inches=1 hand 21.8 inches=1 bible cubit
9 inches=1 span 2½ feet=1 military pace
12 articles=1 dozen 1 league=3 miles
12 dozen=1 gross 20 articles=1 score
12 gross=1 great gross 24 sheets=1 quire
2 articles=1 pair 20 quires=1 ream

TABLE OF MULTIPLES

Diameter of a circle × 3.1416=Circumference.
Radius of a circle × 6.283185=Circumference.
Square of the radius of a circle × 3.1416=Area.
Square of the diameter of a circle × 0.7854=Area.
Square of the circumference of a circle × 0.07958=Area.
Half the circumference of a circle × by half its diameter=Area.
Circumference of a circle × 0.159155=Radius.
Square root of the area of a circle × 0.56419=Radius.
Circumference of a circle × 0.31831=Diameter.
Square root of the area of a circle × 1.12838=Diameter.
Diameter of a circle × 0.86=Side of an inscribed equilateral triangle.
Diameter of a circle × 0.7071=Side of an inscribed square.
Circumference of a circle × 0.225=Side of an inscribed square.
Circumference of a circle × 0.282=Side of an equal square.
Diameter of a circle × 0.8862=Side of an equal square.
Base of a triangle × by one-half the altitude=Area.
Multiplying both diameter and .7854 together=Area of an ellipse.
Surface of a sphere × by one-sixth of its diameter=Solidity.
Circumference of a sphere × by its diam.=Surface.
Square of the diam. of a sphere × 3.1416=Surface.
Square of the circumference of a sphere × 0.3183=Surface.
Cube of the diam. of a sphere × 0.5236=Solidity.
Cube of the circumference of a sphere × 0.016887=Solidity.
Radius of a sphere × 1.1547=Side of an inscribed cube.
Square root of (one-third of the square of) the diam. of a sphere=Side of an inscribed cube.
Area of its base × one-third of its altitude=Solidity of a cone or pyramid, whether round, square or triangular.
Area of one of its sides × 6=Surface of a cube.
Altitude of a trapezoid × one-half the sum of its parallel sides=Area.

PULLEYS AND GEARS

For single reduction or increase of speed by means of belting where the speed at which each shaft should run is known, and one pulley is in place:

Multiply the diameter of the pulley which you have by the number of revolutions per minute that its shaft makes; divide this product by the speed in revolutions per minute at which the second shaft should run. The result is the diameter of pulley to use.

Where both shafts with pulleys are in operation and the speed of one is known:

Multiply the speed of the shaft by diameter of its pulley and divide this product by diameter of pulley on the other shaft. The result is the speed of the second shaft.

Where a countershaft is used, to obtain size of main driving or driven pulley, or speed of main driving or driven shaft, it is necessary to calculate, as above, between the known end of the transmission and the countershaft, then repeat this calculation between the countershaft and the unknown end of the transmission.

Gears of the same pitch transmit speed in proportion to the number of teeth they contain. Count the number of teeth in the gear wheel and use this quantity instead of the diameter of pulley, mentioned above, to obtain number of teeth in unknown gear, or speed of second shaft.

Rule for Finding Size of Pulleys

$$d=\frac{D \times S}{s} \qquad D=\frac{d \times s}{S}$$

d=diameter of driven pulley.
D=diameter of driving pulley.
s=number of revolutions per minute of driven pulley.
S=number of revolutions per minute of driving pulley.

BELTS

To find the length of belt required for two given pulleys—When the length cannot be measured by a tape-line, the following approximate rule may be used: Add the diameters of the two pulleys together, divide the sum by 2, and multiply the quotient by 3.1416, and add the product to twice the distance between the centers of the shafts.

Formula: $\left\{ \frac{(D+d)}{2} \times 3.1416 \right\} + 2C = \text{length.}$

C—Center to center of pulley.
D—Diameter of driver pulley.
d—Diameter of driven pulley.

Shafting

The rule for determining the size of shaft for transmitting a given power at a given speed (8-foot centers for hangers) is as follows:

$$\sqrt[3]{\frac{\text{H.P.} \times 80}{\text{R.P.M.}}} = \text{diameter in inches.}$$

When "H.P." = the horsepower to be transmitted "R.P.M." = the revolutions per minute.

HORSEPOWER TRANSMITTED BY STEEL SHAFTING

Diam. of Shaft, Inches	Revolutions per Minute									
	100	125	150	175	200	225	250	300	350	400
1 1/16	1.2	1.4	1.7	2.1	2.4	2.6	3.1	3.6	4.3	5.0
1 1/16	2.4	3.1	3.7	4.3	4.9	5.5	6.1	7.3	8.5	9.7
1 1/16	4.3	5.3	6.4	7.4	8.5	9.5	10.5	12.7	14.8	16.9
1 11/16	6.7	8.4	10.1	11.7	13.4	15.1	16.7	20.1	23.4	26.8
1 13/16	10.0	12.5	15.0	17.5	20.0	22.5	25.0	30.0	35.0	40.0
2 1/16	14.3	17.8	21.4	24.9	28.5	32.1	35.6	42.7	49.8	57.0
2 1/16	19.5	24.4	29.3	34.1	39.0	44.1	48.7	58.5	68.2	78.0
2 11/16	26.0	32.5	39.0	43.5	52.0	58.5	65.0	78.0	87.0	104.0
2 13/16	33.8	42.2	50.6	59.1	67.5	75.9	84.4	101.3	118.2	135.0
3 1/16	43.0	53.6	64.4	75.1	85.8	96.6	107.3	128.7	150.3	171.6
3 1/16	53.6	67.0	79.4	93.8	107.2	120.1	134.0	158.8	187.6	214.4
3 11/16	65.9	82.4	97.9	115.4	121.8	148.3	164.8	195.7	230.7	243.6
3 13/16	80.0	100.0	120.0	140.0	160.0	180.0	200.0	240.0	280.0	320.0
4 1/16	113.9	142.4	170.8	199.3	227.8	256.2	284.7	341.7	398.6	455.6
4 1/16	156.3	195.3	234.4	273.4	312.5	351.5	390.6	468.7	546.8	625.0

We have compiled and printed a numerical index of the catalog numbers listed in this catalog. Copies will be cheerfully supplied upon application to your nearest General Electric Supply Corporation office.

INDEX

A

Page

Abrasives, Ideal 976
Accessories, Cable, Aluminum 294, 295
Conduit, Crouse-Hinds 87
Lamp Changer, McGill 1012
Lighting, Day-Brite 829
Wiring, Street Lighting, G-E 719
Acid Swabs, Allen 329
Ackerman-Johnson Anchors, Screw 925, 926
Bolts, Expansion 925
Adalet Bushings, Insulating 15, 16, 325
Fittings, Conduit 15, 16
Pipe Ends 15
Adaptabels, Edwards 681
Adaptahorns, Edwards 678
Adapters, Angle, G-E 17
Box Connector, Jake 29
Conduit, Orangeburg 882
Condulet, GUA-GUF Series 95
Condulet, Obround Series 74
Knockout, G-E 64
Lampholder, G-E 354
Panel Box, G-E 17
Pull, Levolier 412
Rod, Cope 954
Splice, Reliable 319
Adhesives, G-E 339
Adjustable Channelites, Swivelier 802
Lamps, Dazor 812–814
Lighting Units, Swivelier 799–803
Aerial Cable, G-E 254, 255
Air Horns, Compressed, Federal 677
Tool Kit, Thor 974
Whistles, Federal 676
Aircraft Wire, Deltabeston 282–285
Airport Lighting, G-E 733
Akron Compound, Splicing 345
Alabax Lighting Fixtures 815–819
Alarm Boxes, Fire, Faraday 702
Boxes, Fire, Federal 676
Devices, Burglar, Edwards 700
Matting, Floor, Edwards 700
Stations, Fire, Edwards 701
Aligners, Outlet Box Cover, Ivanhoe 844
Allen Acid Swabs 329
Alumi-Soder 329
Flux, Soldering 329
Sal Ammoniac 329
Solder, Stainless Steel 329
Soldering Liquid 329
Soldering Paste 329
Soldering Salts 329
Soldering Sticks 329
Aluminum Cable 294
Cable Accessories 294, 295
Cable Clamps, Dead-End 295

Page

Aluminum Cable Clamps, Parallel Groove 295
Wire, Armor 295
Wire, Tie Stick 295
Wrenches, Twisting Joint 295
Alumi-Soder, Allen 329
American Chain, Arc Lamp 920
Concrete Poles, Traffic-Signal 731
Conduit, Sealtite 12
Wire Gauge 993
American Blower Blowers, Pressure 665
Fans, Ventura 654–661
Fans, Window 669
Utility Sets 662–664, 666–668
Ammeters, Panel, G-E 482, 483
Portable, G-E 486–488
Recording, G-E 484, 485
Switchboard, G-E 478–481
Amplicall Intercommunication Systems 705
Anchor Clips, Kindorf 49
Hooks, Klein 983
Anchors, Bolt, Paine 927
Bolt, Star 928
Calking, Diamond 926
Dryvin 928
Expanding, Chance 913, 914
Expansion, Paine 927
Hammer Drive, Diamond 926
Never Creep, Chance 913
Pole Key, Chance 913
Rock, Chance 914
Screw, Ackerman-Johnson 925, 926
Screw, Chance 914
Screw, Diamond 926
Screw, Paine 927
Screw, Rawlplug 924
Screw, Star 928
Tampin, Star 928
Angle Adapters, G-E 17
Connectors, G-E 22
Connectors, Kindorf 45
Type Receptacles, R & S 165
Annunciator Cable, Elevator 290
Drops, Edwards 687
Wire 289
Wire, Weatherproof 290
Annunciators, Edwards 684–686
Nurses' Station 690
Annunciettes, Edwards 684
Apartment House Telephones, Edwards 703, 704
Apparatus Leads, G-E 251
Appleton Outlets, Roller Cable 860
Reelites, Constant Duty 859, 860
Reelites, Portable 858, 860
Appliance Wire, Deltabeston 271–274
Wire, G-E 224

Page

Arc Lamp Chain, American 920
Lamp Cord, Galvanized 920
Armature Gauges, Air Gap, Ideal 976
Armor Cutters, Ideal 977
Rod Clips 294
Rod Wrenches 295
Rods, Aluminum Cable 295
Armored Cable, BX-BXL, G-E 286
Arms, Extension, Levolier 412
Mast, Street Lighting, G-E 718
Armstrong Cutting Oil 939
Pipe Cutters 939
Stocks and Dies 939, 940
Tools, Pipe Threading 939, 940
Vise Stands, Portable 938
Vises, Pipe 938
Arresters, Capacitor-Type, G-E 544
Lightning, G-E 535–542, 722
Asbestoment, J-M 345
Asbestos Ebony, J-M 344
Millboard, J-M 343
Paper, J-M 343
Roll Board, J-M 343
Tubing, Braided, J-M 344
Yarns, J-M 344
Attachment Plugs, G-E 390
Attachments, Insulator, Locke 895, 896
Auto Fuses, Buss 378
Automatic Starters, R & S 155
Autotransformers, G-E 470
Phase Changing, G-E 505
Service, G-E 504
Auxiliary Equipment, Airport Lighting, G-E 736

B

B & L Blocks, Snatch 961
Blocks, Tackle 960
Bags, Line Hose, Salisbury 965
Tool, Klein 982
Tool, Salisbury 965
Ball Bearings, Watthour Meter, G-E 471
Ballasts, Circline Lamp, G-E 495
Cold-Cathode Lamp, G-E 495
Fluorescent Lamp, G-E 494–496
Mercury Lamp, G-E 500
Mercury-Vapor Lamp, G-E 501, 502
Slimline Lamp, G-E 495
Balls, Fish Tape, T & B 944
Bands, Cable, Cope 957
Bar Hangers, G-E 54
Solder, Allen 329
Bars, Crow, Oshkosh 947
Digging, Oshkosh 947
Tamping, Oshkosh 947, 948

Page

Bartlett Attachments, Pike Pole 951
Cutters, Wire 953
Pruners 951
Saws, Pole 952
Saws, Pruning 951–953
Saws, Tree Trimming 952, 953
Sheaths, Saw 953
Sleeves, Tree Trimmer 950
Tree Paint 953
Tree Trimmers 950, 951
Baseboard Heaters, Wesix 647
Bases, Lampholder, Lumiline, G-E 355
Motor, Twist-Lock, G-E 368–370
Plug, Twist-Lock, G-E 368
Bathroom Units, Lighting, Alabax 815–818
Batteries, Blasting, Eveready 1007
Flashlight, Eveready 1006
Hot Shot, Eveready 1007
Lantern, Eveready 1006
Radio, Eveready 1007–1009
Telephone, Eveready 1007
Battery Chargers, G-E 650–652
Beacon Towers, Ideco 744
Beacons, Traffic, G-E 727
Beam Clamps, Kindorf 45, 47, 49
Bearings, Watthour Meter, G-E 471
Bell Ends, Conduit, Orangeburg 882
Pull Switch, Edwards 697
Pushes, P & S-Despard 400
Bells, Burglar Alarm, Edwards 680
Dixie, Edwards 680
Door, Edwards 680
Economy, Edwards 681
Heavy Duty, Faraday 681, 682
Lungen, Edwards 680
Monitor, Edwards 680
Mono-Coil, Faraday 683
Nubel, Edwards 680
Single Stroke, Faraday 681
Uni-Pact, Faraday 681
Vibrating, Faraday 681–683
Belts, Grommet, Goodrich 633
Multicord, Goodrich 632
Tool, Klein 980
V, Goodrich 634
Bench Grinders, Thor 975
Benders, Cable, Cope 956
Conduit, Greenlee 943
Conduit, Henderson 943, 944
Pipe, Tal 942
Bends, Conduit, Orangeburg 881
Binders, Load, Coffing 959
Bit Braces, Stanley 991
Extensions, Stanley 991
Bits, Drill, Mephisto 991
Drill, Paine 989
Electrician's, Greenlee 990
Expansive, Greenlee 990
Blackburn Clamps, Ground Rod 915, 916
Connectors 916, 917
Connectors, Wire 315
Hoist and Puller 960
Lugs, Solderless 315
Plates, Ground 915
Rods, Ground 915
Blades, Hack Saw, Capewell 986
Hack Saw, Simonds 985
Blank Plates, G-E 371, 373
Blanks, Snap-In 64
Blasting Batteries, Eveready 1007
Block Tackles, Klein 983
Blocks, Push Button, Edwards 696
Sheave, Universal 968
Snatch, B & L 961

Page

Blocks, Tackle, B & L 960
Test, G-E 578, 579
Blo-Fan Ventilators, Pryne 670
Blow Torches, C & L 995
Blowers, Pressure, American Blower 665
Boards, Terminal, G-E 581, 582
Bodies, Connector, G-E 363
Connector, P & S 405
Connector, Polarity, G-E 364, 365
Connector, Twist-Lock, G-E 368–370
Lampholder, G-E 350
Plug, Attachment, G-E 366
Plug, G-E 390
Plug, Twist-Lock, G-E 367
Bolt Anchors, Paine 927
Anchors, Star 928
Bolts, Expansion, Ackerman-Johnson 925
Expansion, Diamond 930
Expansion, Star 929
Eye, Paine 932
Machine, Kindorf 46
Toggle, Paine 931, 932
U, Kindorf 48
Bonding, Excerpts from N.E. Code 37, 38
Booths, Telephone, Burgess 708
Borderlights, Kliegl 805
Box Accessories, Floor, G-E 68
Connectors, Jake 29
Covers, Metal, P & S-Despard 400
Covers, Outlet, G-E 53, 54
Covers, Outlet, Porcelain 57
Covers, Switch, Porcelain 57
Boxes, Bar Hanger, G-E 54
Ceiling, Porcelain 57
Concrete, G-E 55
Conduit, R & S 158
Excerpts from N.E. Code 51
Fire Alarm, Faraday 702
Fire Alarm, Federal 676
Floor, Gang, G-E 67
Floor, G-E 66–68
Gang, G-E 56
Junction, Cast Iron, T & B 60
Junction, Fiberduct, G-E 172, 173
Junction, Keystone 192
Junction, O.Z. 61–63
Outlet, G-E 52–54
Outlet, Porcelain 57
Plugging, Kliegl 806
Pull, Steel, Columbia 58
Steel, Columbia 59
Switch, G-E 52
Switch, Porcelain 57
Utility, G-E 55
Braces, Bit, Stanley 991
Trench, Duff-Norton 958
Brackets, Lighting, Holophane 833
Pipe, Street Lighting, G-E 718
Pole, Wood 889
Wall, Alabax 815–817
Wall, Kindorf 47, 48
Brass Screws, Machine 935, 936
Screws, Wood 934
Breakers, Circuit, Air, G-E 558–561
Circuit, Power, G-E 565–570
Circuit, R & S 156, 157
Circuit, Trumbull 432–434
Bridge, Double, Portable, G-E 490
Bridle Rings, Diamond 933

Page

Brooklyn Strain Insulators 918
Brown & Sharpe Calipers, Micrometer 993
Calipers, Spring 993
Dividers, Spring 993
Gauges, Screw Pitch 993
Gauges, Wire 993
Indicators, Speed 993
Rules, Steel 993
Building Wire and Cable, Rubber-Insulated 287
Wire, Thermoplastic 289
Bulbs, Rectifier, Tungar, G-E 650
Bunghole Lamps, Portable, VaproTex 867
Burgess Telephone Booths 708
Burglar Alarm Bells, Edwards 680
Alarm Devices, Edwards 700
Burndy Buttins 312
Clamps, Bus Bar 313
Clamps, Cable 313
Clamps, Ground 312
Clips, Cable 310
Connectors, Cable 308–313
Connectors, Solderless 308–313
Connectors, Wire 308–313
Groundems 312
Hylinks 308
Hylugs 308
Lugs, Terminal 308–310
Oklips 312
Qiklinks 310, 311
Qiklugs 309
Qiktaps 310, 311
Scrulugs 309
Servits 312
Taps, Cable 310, 311
Taps, Gutter 311
T-Connectors 311
Terminals, Cable 308–310
Terminals, Current Transformer 313
Tools, Connector 308
Unitaps 311
Varilugs 309
Varitaps 310
Versilinks 311
Versilugs 311
Versitaps 311
Bushings, Bonding, G-E 39
Compound, O.Z. 302
Conduit, G-E 12
Conduit, Orangeburg 882
End, T & B 16
Grounding, G-E 39
Insulated, O.Z. 14
Insulated, T & B 16
Insulating, Adalet 15, 16, 325
Insulating, O.Z. 16
Insulating, T & B 16
Porcelain, Federal 325
Reducing, Jake 29
Sealing, O.Z. 302
Snap-In 64
Buttons, Push, Edwards 695
Push, Elevator Call 697
Buss Fuse Holders 377
Fuses, Auto 378
Fuses, Glass Tube 378
Fuses, Radio 378
Buttins, Burndy 312
Buttons, Flasher, Eagle 422
Winker, Eagle 422
Buzzers, Dixie, Edwards 680
Faraday 682
Lungen, Edwards 680
No-Contact, Edwards 680
By-Pass, Thyrite, G-E 725

C Page

C & L Fire Pots....995, 996
Melting Ladles 996
Melting Pots 996
Torches 995
Cabinetrol Unit Equipments, G-E 619
Cabinets, Circuit Breaker, R & S 157
Steel, Columbia 59, 60
Transformer, Columbia 60
Cable, Aerial, G-E....237, 238
Aluminum 294
Annunciator, Elevator 292
Armored, BX-BXL, G-E 287
Armored, Excerpts from N.E. Code 24
Building, Rubber-Insulated 288
Bus-Drop, G-E 228
Control, G-E 244
Control, Thermostat 290
Deck, Flexible 291
Dredge and Shovel 247
Drive-In Theater, G-E 229
Flamenol, G-E 228, 242
General Purpose, G-E 232, 234–236, 239, 240
Geoprene, G-E 243–247
Geotrol, G-E 226
Heating, G-E 638
Insulated, G-E 252, 253, 255, 257, 258, 261, 262
Interlocked-Armor, G-E 259
Lead Covered, Rubber-Insulated 289
Leaded, G-E 254
Mine Locomotive, Deltabeston 269
Mine Telephone, G-E 229
Neon Sign, G-E 228
Parkway, G-E 236
Portable, G-E 244–250
Power, Deltabeston 264–268
Rubber-Insulated, G-E 234–236, 239, 240, 247–250
Service Entrance, Excerpts from N.E. Code 33
Service Entrance, G-E 230
Sheathed, Non-Metallic 290
Sheathed, Non-Metallic, Excerpts from N.E. Code 24
Station Control, Deltabeston 269
Station Control, G-E 227
Super Coronol-Geoprene, G-E 233
Switchboard Hinge, Deltabeston 276, 277
Telephone 292
Traffic Control, G-E 227
Versatol-Geoprene, G-E 231
Welding, G-E 232
Cable Accessories, Aluminum 292–295
Bands, Cope 957
Bender, Cope 956
Clamps, Diamond 41
Clamps, Kindorf 48
Clamps, Matthews 315
Clips, Burndy 310
Connectors, Burndy 308–313
Connectors, Crouse-Hinds 100, 101, 121, 122
Connectors, G-E 25–28, 30–32, 34, 35
Connectors, Penn-Union 316
Connectors, Reliable 318
Connectors, Solderless, Trumbull 458

Page

Cable Connectors, T & B 306
Connectors, Tomic 30
Cutters, Ideal 977
Feeder and Straightener, Cope 957
Feeders, Cope 956
Grips, Kellems 946
Grips, Klein 982, 983
Insulation, J-M 345
Insulets, G-E 32
Protectors, Cope 956
Pullers, Greenlee 945
Pulling Rigging, Cope 956
Racks, Cope 919, 920
Reel Jacks, Duff-Norton 958
Rings, National 921
Ripper and Wire Gauge, Ideal 977
Sheath Splitting Knives, Klein 984
Sleeves, National 320, 321
Sleeves, Reliable 318
Splicing Kit, G & W 348
Staples, G-E 30
Straps, Diamond 41
Straps, G-E 30, 36
Supports, O.Z. 303
Supports, Service, G-E 36
Straps, G-E 32
Straps, Messenger, Minerallac 64
Taps, Burndy 310, 311
Taps, Penn-Union 316
Taps, T & B 307
Terminals, Burndy 308–310
Terminators, O.Z. 301
Calipers, Micrometer, B & S 993
Spring, B & S 993
Calking Anchors, Diamond 926
Call Systems, Nurses', Edwards 689, 690
Canopies, Fixture, Crouse-Hinds 95
Canopy Switches, G-E 360
Cans, Safety, Justrite 1011
Waste, Justrite 1012
Cant Hooks, Oshkosh 947
Capacitor Equipment, G-E 532
Units, G-E 532
Capacitors, High-Frequency, G-E 534
Permafil, G-E 534
Pyranol, G-E 532–534
Capewell Blades, Hack Saw 986
Flat Stock, Precision Ground 987
Frames, Hack Saw 987
Hammers, Ball Pein 987
Pipe Threaders 941
Pipe Tools 941
Reamer, Ratchet 941
Saw, All-Purpose, Dafiles 987
Caps, Conduit, Orangeburg 882
Connector, G-E 370
Entrance, Conduit 89
Entrance, G-E 18, 22, 36
Lampholder, G-E 350
Lampholder, Lumiline, G-E 355
Plug, Attachment, G-E 366
Plug, G-E 363
Plug, P & S 405
Plug, P & S-Despard 399
Plug, Polarity, G-E 364, 365
Plug, Polarized, P & S 405
Plug, Twist-Lock, G-E 367–369
Range Outlet, G-E 365
Rosette, Crouse-Hinds 88
Socket, Porcelain, P & S 406
Carboloy Drills, Masonry 988

Page

Cargolites, Steber 846
Casing, Plug, Fuse, G-E 375
Ceiling, Luminous-Acoustical, Wakefield 750, 751
Ceiling Boxes, Porcelain 57
Receptacles, G-E 351
Cells, Dry, Eveready 1006
Cement, Commutator, Ideal 976
Cements, G-E 339
Chadsey Lamp Changers 1012
Chain, Arc Lamp, American 920
Jack 868
Champion DeArment Pliers 978
Chance Anchors 913–915
Clamp-Stick 964
Clamps, Ground Rod 962
Clamps, Wire 963
Connectors, U-Bolt 962
Ground Rods 962
Hot Line Maintenance Tools 962–964
Saddle and Tightener, Wire Tong 964
Tap-Clamps 963
Tie Sticks 964
Tool Set 962
Wire Cutters, Insulated 962
Wire Tongs 963
Changers, Lamp, Chadsey 1012
Lamp, McGill 1012
Channel, Wiring, Kindorf 45
Channel Clamps, Kindorf 48
Spacers, Kindorf 45, 46
Channelites, Adjustable, Swivelier 802
Channellock Pliers 978
Channels, Wiring, CurtiStrip 201
Chargers, Battery, G-E 650–652
Chase Nipples, Conduit 13
Chatterton Compound, McGill 347
Chicago Wire Grips 982, 983
Chime Transformers, Edwards 699
Chimes, Directory, Edwards 679
Door, Edwards 678, 679
Faraday 683
Twist, Edwards 678
Chisels, Mephisto 992
Circuit Breaker Condulets 123, 137, 138, 145–148
Breaker Panelboards, Crouse-Hinds 137, 138
Breakers, Air, G-E 558–561
Breakers, Power, G-E ..565–570
Breakers, R & S 156, 157
Breakers, Trumbull 432–434
Breaking Receptacles and Plugs, P-N 149
Equipment, Safety, Groundulet 90
Circulators, Floor, G-E 672
Clamps, Angle, Locke 894, 895
Armor-Rod, Sherman 917
Beam, Kindorf 45, 47, 49
Cable, Burndy 313
Cable, Diamond 41
Cable, Kindorf 48
Cable, Matthews 315
Channel, Kindorf 48
Conduit, Diamond 41
Conduit, Kindorf 50
Conduit, Paine 42
Conduit, T & B 44
Dead End, Aluminum Cable 293
Dead-End, Locke 894, 895
Fuse Clip, Ideal 375
Ground, Burndy 312
Ground, G-E 39
Ground, Sherman 40
Ground Rod, Blackburn 915, 916

Page

Clamps, Ground Rod, Chance.. 962
Hot Line, Weaver.. 965
I-Beam, Kindorf .. 49
Jumper, Sherman .. 917
Parallel Groove, Aluminum Cable .. 294
Sleeve, Klein .. 979
Steel, Kindorf .. 49
Strain, Locke .. 894
Strap, Groundulet .. 90
Suspension, Locke .. 893
Tap, Chance .. 963
Toggle Bolt, Paine.. 931
Wire, Chance .. 963
Wire, Klein .. 979
Cleaners, Conduit, Cope.. 955
Industrial, Vacuum, G-E .. 998–1000
Cleaning Tools, Conduit, Cope 955
Cleat Receptacles, Monowatt.. 393
Cleats, Wire, Porcelain.. 323
Climber Pads, Klein.. 980
Straps, Klein .. 980
Climbers, Linemen's, Klein .. 979, 980
Clip Clamps, Fuse, Ideal.. 375
Clips, Anchor, Kindorf.. 49
Armor Rod .. 294
Cable, Burndy .. 310
Universal, Mueller .. 322
Wire Rope, U-W.. 917
Clock Conduits, Crouse-Hinds .. 142
Hanger Outlets, G-E.. 366
Systems, Centrally-Controlled, Edwards .. 693
Clocks, Commercial, G-E.. 1011
Cloth, Varnished, G-E.. 342
Coffing Binders, Load.. 959
Hoists, Ratchet Lever.. 959
Columbia Boxes, Pull.. 58
Cabinets, Steel .. 59, 60
Cabinets, Transformer .. 60
Columbian Manila Rope.. 920
Closet Lights, Pry-Lite.. 798
Collars, Wireway, Keystone.. 192
Color Lenses, Steber.. 848
Lenses, Swivelier .. 800
Wheels, Kliegl .. 806
Coloring Fluid and Frosting, McGill .. 878
Combination Outlets, G-E.. 390
Starters, R & S.. 155
Switch and Plate, G-E.. 391
Commodore Lighting Fixtures 783
Compass Saw, Mephisto.. 992
Compco Tester, Fluorescent Lamp and Starter.. 878
Compound Bushings, O.Z. .. 302
Kettles, Cope .. 956
Compounds, Filling, G-E.. 338
Grouting, G-E .. 178
Insulating .. 347
Insulating, G & W.. 348
Insulating, McGill .. 347
Insulating, Minerallac .. 348
Insulating, O.Z. .. 347
Sealing, G-E .. 338
Splicing, Akron .. 345
Commutator Cement, Ideal.. 976
Resurfacers, Ideal .. 976
Concrete Boxes, G-E.. 55
Inserts, Kindorf .. 47
Conductor Dimensions .. 223
Insulations, N.E. Code.. 223
Conductors, Current Carrying Capacities of .. 222
Insulation of .. 223
Conduit, Fibre, Orangeburg.. 880

Page

Conduit, Flexible, Excerpts from N. E. Code.. 24
Flexible, Non-Metallic .. 30
Rigid, Everdur .. 11
Rigid, G-E .. 9, 10
Sealtite, American .. 12
Steel, Flexible, G-E.. 25
Conduit Adapters, Orangeburg 882
Bell Ends, Orangeburg.. 882
Benders, Greenlee .. 943
Benders, Henderson .. 943, 944
Benders, Tal .. 942
Bends, Orangeburg .. 881
Boxes, R & S.. 158
Bushings, G-E .. 12
Bushings, Insulated, O.Z. .. 14
Bushings, Orangeburg .. 882
Caps, Orangeburg .. 882
Clamps, Diamond .. 41
Clamps, Kindorf .. 50
Clamps, Paine .. 42
Clamps, T & B.. 44
Cleaners, Cope .. 955
Connectors, Crouse-Hinds .. 99
Connectors, G-E .. 25–28
Connectors, Jake .. 29
Connectors, T & B.. 18
Couplings, Erickson .. 13
Couplings, G-E .. 17
Couplings, Orangeburg .. 881
Couplings, T & B.. 18
Data, G-E .. 8
Elbow Former, Henderson.. 944
Elbows, Crouse-Hinds .. 99
Elbows, Long Radius, G-E.. 10
Elbows, Orangeburg .. 881
Enlargers, G-E .. 12
Fittings, Adalet .. 15, 16
Fittings, Crouse-Hinds .. 89
Fittings, Fibre, Orangeburg .. 881–883
Fittings, G-E .. 12, 13, 18, 19
Fittings, O.Z. .. 17
Fittings, Sealtite .. 12
Fittings, T & B.. 16, 18
Hangers, Kindorf .. 47, 50
Hangers, Paine .. 932
Hangers, T & B.. 44
Insulets, G-E .. 18
Locknuts, G-E .. 12
Nipples, Chase .. 13
Nipples, G-E .. 10
Pennies, Austin .. 16
Plugs, Orangeburg .. 882
Reamers, Lightning .. 941
Reducers, G-E .. 13
Reducers, Orangeburg .. 882
Rods, Cope .. 954
Spacers, Orangeburg .. 883
Straps, Kindorf .. 46, 49
Supports, Korns .. 44
Supports, T & B.. 44
Tools, Cope .. 955
Unions, Crouse-Hinds .. 99
Conduit Accessories, GS Series .. 87
Adapters, Obround .. 74
Caps, Entrance .. 89
Covers, FD Series .. 77, 78, 81–84
Covers, Form 8 Series.. 75
Covers, FS Series .. 77, 78, 81–84
Covers, GRF Series .. 85
Covers, GS Series .. 87
Covers, GUA Series .. 95
Covers, GUJ Series .. 94
Covers, Mogul Series .. 76
Covers, Nipple .. 95
Covers, Obround Series .. 73, 74
Covers, SE Series .. 86

Page

Conduit Covers, SEH Series.. 86
Covers, SK Series .. 85
Equipment, REA .. 90
Extensions .. 77, 81–84
Gaskets, Form 8 Series.. 75
Gaskets, FS-FD Series .. 80
Gaskets, Mogul Series .. 76
Gaskets, Obround Series .. 72
Gaskets, SK Series .. 85
Parts, Mercury Limit Switch 127
Pedestals .. 88
Receptacles, Lamp, Obround .. 74
Receptacles, Plug, Obround 74
Rosettes, Cord, Obround.. 74
Conduits, AJ Series.. 120
AR Series .. 120
Circuit Breaker 123, 137, 138, 145–148
Clock .. 142
Combination .. 132–136
CR Series .. 88
FD Series .. 76, 77, 81–84
Fixture Hanger .. 111, 112
Form 8 Series.. 75
FS Series .. 76, 77, 81–84
FSQ Series .. 122
GRF Series .. 85
GS Series .. 86, 87
GUA Series .. 92–94
GUF Series .. 93
GUJ Series .. 94
Horn Signal .. 143
Instrument .. 142
Junction, CPS Series .. 95, 104
Junction, GUA Series .. 92–94
Junction, GUF Series .. 93
Junction, Type EJB .. 97, 98
Junction, Type EJH .. 95
Junction, Type GUB .. 97
Lighting Fixture .. 104
Mogul Series .. 76
Motor Sentinel .. 143, 144
Obround Series .. 70–72, 74
Pilot Light .. 132
Pull .. 96
Plug Receptacle .. 122
Push Button .. 129–131, 134–136
Push Button, Type OFC.. 133
Receptacle .. 90
Safety Switch .. 124, 128
SE Series .. 86
Sealing .. 101
SEH Series .. 86
Selector Switch .. 134
Sign .. 88
Signal .. 139
SK Series .. 85
Starter .. 144, 145
Switch .. 127, 131, 143
Thermostat .. 142, 143
Transformer .. 139
Tumbler Switch .. 125, 126
Type A .. 70, 72
Type B .. 70, 72
Type BC .. 76
Type BEE .. 76
Type BLB .. 76
Type BT .. 76
Type BTB .. 76
Type BUB .. 76
Type BX .. 76
Type C .. 70, 72
Type C, Form 8.. 75
Type CO .. 71
Type COV .. 71
Type CR .. 88
Type CRA .. 88
Type CRC .. 88

Page

Condulets, Type CRT 88
Type CRL 88
Type CRX 88
Type CUB 71
Type E 70, 72
Type E, Form 8 75
Type EGP 134
Type EZD 102
Type F 71
Type FD 76, 77, 80–84
Type FDA 76, 80, 82, 83
Type FDB 80, 83
Type FDC 76, 77, 80–83
Type FDCA 76
Type FDCC 76
Type FDCT 77
Type FDD 76
Type FDE 80
Type FDL 76
Type FDR 76
Type FDS 80, 82
Type FDT 77
Type FDX 77
Type FS 76, 77, 80–84
Type FS, Double Face 77
Type FSA 76, 80, 82, 83
Type FSC 76, 77, 80–83
Type FSC, Double Face 77
Type FSCA 76
Type FSCC 76
Type FSCT 77
Type FSD 80, 83
Type FSE 80
Type FSL 76
Type FSR 76
Type FSS 76, 80, 82
Type FST 77
Type FSX 77
Type GS 86
Type GSA 86
Type GSB 86
Type GSC 86
Type GSD 86
Type GSL 86
Type GST 86
Type GSX 86
Type GUA 92, 93
Type GUAB 92
Type GUAC 92, 93
Type GUAD 92
Type GUAL 92, 93
Type GUAN 92
Type GUAT 92, 93
Type GUAW 92
Type GUAX 92, 93
Type GUFC 93
Type GUFL 93
Type GUFT 93
Type GUFX 93
Type GUP 93
Type L 71, 72
Type LB 70, 72
Type LB, Form 8 75
Type LBD 74
Type LF 70
Type LL 70, 72
Type LL, Form 8 75
Type LR 70, 72
Type LR, Form 8 75
Type SE 86
Type SEC 86
Type SEH 86
Type SEHC 86
Type SEHT 86
Type SEHX 86
Type SET 86
Type SEX 86
Type SK 85
Type SKC 85

Page

Condulets, Type SKL 85
Type SKT 85
Type SKX 85
Type T 71, 72
Type T, Form 8 75
Type TA 71
Type TB 71
Type TB, Form 8 75
Type U 71
Type UB 71
Type X 71, 72
Type X, Form 8 75
Type XA 71
Universal Junction 96
Y Series 128
Connector Adapters, Jake 29
Bodies, G-E 363
Bodies, P & S 405
Bodies, Polarity, G-E 364, 365
Bodies, Twist-Lock, G-E 368–370
Caps, G-E 370
Tools, Burndy 308
Connectors, Angle, G-E 22
Angle, Kindorf 45
Box, Jake 29
Cable, Burndy 308–313
Cable, Crouse-Hinds 100, 101, 121, 122
Cable, G-E 25–28, 30–32, 34, 35
Cable, Reliable 318
Cable, Penn-Union 316
Cable, T & B 306
Cable, Tomic 30
Conduit, Crouse-Hinds 99
Conduit, G-E 25–28
Conduit, Jake 29
Conduit, T & B 18
Copper Braid, O.Z. 40
Cord, Ever-Lok, R & S 415, 416, 418–421
Cord, P & S 405
Cord, Rubber, Safeway 414
Cord, Safeway 414
E.M.T., Briegel 23
E.M.T., G-E 22
E.M.T., Tomic 23
E.M.T., Watertight 20
Grip, G-E 394
Ground, O.Z. 40
Grounding, O.Z. 40
Lock-Tite, T & B 306
Pressure, G-E 314
Raintight, G-E 22
Service, Penn-Union 315
Service Entrance, Crouse-Hinds 89
Side Beam, Kindorf 50
Solderless, Burndy 308–313
Solderless, O.Z. 313, 314
Solderless, T & B 306
Solderless, Trumbull 458
Sta-Kon, T & B 305
Swing, Kindorf 47
Switch, G-E 394
Triploc, Pyle-National 150, 151
U-Bolt, Chance 962
Watertight, G-E 34, 35
Watertight, R & S 159
Wire, Blackburn 315, 916, 917
Wire, Burndy 308–313
Wire, Ideal 323
Wire, T & B 306
Constant Duty Reelites 859, 860
Ringing Drops, Edwards 700
Construction Material, Outdoor 897–912
Contactors, All-Purpose, Edwards 700

Page

Contactors, Magnetic, Trumbull 437, 438
Motor, G-E 615
Control Cable, G-E 236
Cable, Station, Deltabeston 271
Cable, Station, G-E 227
Cable, Thermostat 290
Cable, Traffic, G-E 227
Equipment, Airport Lighting, G-E 734, 735
Switches, Circuit Breaker, G-E 571–574
Controllers, Street Lighting, G-E 722
Synchronous-Motor, G-E 619
Traffic, G-E 727
Convenience Outlet Plates, P & S 401, 402
Outlets, G-E 362–365
Outlets, P & S-Despard 399
Outlets, Twist-Lock, G-E 368–370
Cope Adapters, Rod 954
Bands, Cable 957
Benders, Cable 956
Cable Tools 954, 956, 957
Conduit Tools 955
Feeder and Straightener, Cable 957
Feeders, Cable 956
Kettles, Compound 956
Protectors, Cable 956
Pullers, Rod 956
Racks, Cable 919, 920
Rails, Guard 954
Rigging, Cable Pulling 956
Rods, Conduit 954
Tents, Aerial 954
Copper Sleeves, Reliable 318
Cord Connectors, Ever-Lok, R & S 415, 416, 418–421
Connectors, P & S 405
Connectors, Rubber, Safeway 414
Reels, Safeway 866
Reels, Zoo 861
Rosettes, Condulet, Obround 74
Sets, Extension, G-E 395
Sets, G-E 379
Sets, Heater, G-E 395
Sets, Monowatt 396
Sets, Range, G-E 366
Cords, Braided, Heavy Duty 291
Flexible 291
Flexible, Deltabeston 274
Galvanized, Arc Lamp 920
Geoprene, Portable, G-E 243
Heater, PreenX, G-E 243
Lamp, Flexible 291
Locomotive Cab, Deltabeston 279
Moisture-Proof, Flexible 291
Permanent Wave Machine, Deltabeston 273
Rip, G-E 242
Rubber-Jacketed, G-E 241, 242
Shot Firing, G-E 251
Spot, Samson 920
Coronol-Geoprene Cable, Super, G-E 233
Cotton Sleeving 343
Couplings, Conduit, Erickson, G-E 13
Conduit, Everdur 11
Conduit, G-E 17
Conduit, Orangeburg 881
Conduit, T & B 18
E.M.T., Briegel 23

Page

Couplings, E.M.T., G-E..... 22
E.M.T., Tomic 23
E.M.T., Watertight 20
Flexible, Type EC, Crouse-Hinds 99, 100
Insulating, O.Z. 17
Multilet, G-E 13
Raintight, G-E 22
Split, O.Z. 17
Coverlites, Steber 849
Covers, Box, Multilet, G-E..... 55
Concrete Box, G-E..... 55
Condulet, FD Series 77, 78, 81–84
Condulet, Form 8 Series..... 75
Condulet, FS Series 77, 78, 81–84
Condulet, GRF Series 85
Condulet, GS Series 87
Condulet, GUA Series 95
Condulet, GUJ Series 94
Condulet, Mogul Series 76
Condulet, Obround Series 73, 74
Condulet, SE Series 86
Condulet, SEH Series 86
Condulet, SK Series 85
Metal Box, P & S-Despard.... 400
Nipple, Crouse-Hinds 95
Outlet Box, G-E 53, 54
Outlet Box, Porcelain 57
Protective, Miller-Ivanhoe .. 844
Receptacle, Porcelain 57, 409
Switch Box, Porcelain..... 57
Utility Box, G-E..... 55
Cross Arms, Fir, Standard..888, 889
Crossunders, Fiberduct, G-E.... 174
Crouse-Hinds Adapters, Condulet 95
Adapters, Condulet, Obround 74
Canopies, Fixture 95
Caps, Entrance, Condulet .. 89
Caps, Rosette 88
Conduit Fittings 89
Condulet Accessories 87
Condulet Equipment, REA.. 90
Condulet, Extensions 77, 81–84, 95
Condulet Parts, Mercury Limit Switch 127
Condulets, AJ Series 120
Condulets, AR Series 120
Condulets, Circuit Breaker 123, 137, 138, 145–148
Condulets, Clock 142
Condulets, Combination 132–136
Condulets, CR Series 88
Condulets, FD Series 76–78, 81–84
Condulets, Fixture Hanger 111, 112
Condulets, Form 8 75
Condulets, FS Series 76–78, 81–84
Condulets, FSQ Series 122
Condulets, GRF Series 85
Condulets, GS Series 86, 87
Condulets, GUA Series 92–94
Condulets, GUJ Series 94
Condulets, Horn Signal 143
Condulets, Instrument 142
Condulets, Junction, CPS Series 95, 104
Condulets, Junction, GUA Series 92–94
Condulets, Junction, GUF Series 93

Page

Crouse-Hinds Condulets, Junction, Type EJB.....97, 98
Condulets, Junction, Type EJH 95
Condulets, Junction, Type GUB 97
Condulets, Lighting Fixture 104
Condulets, Mogul Series 76
Condulets, Motor Sentinel 143, 144
Condulets, Obround Series 70–72, 74
Condulets, Pilot Light 132
Condulets, Plug Receptacle.. 122
Condulets, Pull 96
Condulets, Push Button 129–131, 134–136
Condulets, Push Button, Type OFC 133
Condulets, Receptacle 90
Condulets, Safety Switch 124, 128
Condulets, SE Series 86
Condulets, Sealing 101
Condulets, SEH Series 86
Condulets, Selector Switch.. 134
Condulets, Sign 88
Condulets, Signal 139
Condulets, SK Series 85
Condulets, Starter 144, 145
Condulets, Switch 127, 131, 143
Condulets, Thermostat ..142, 143
Condulets, Transformer 139
Condulets, Tumbler Switch 125, 126
Condulets, Type EGP 134
Condulets, Type EZD 102
Condulets, Universal Junction 96
Condulets, Y Series 128
Connectors, Cable 100, 101, 121, 122
Connectors, Conduit 99
Connectors, Service Entrance 89
Couplings, Type EC, Flexible 99, 100
Covers, FD Series ..77, 78, 81–84
Covers, Form 8 Series..... 75
Covers, FS Series ..77, 78, 81–84
Covers, GRF Series 85
Covers, GS Series 87
Covers, GUA Series 95
Covers, GUF Series 95
Covers, GUJ Series 94
Covers, Mogul Series 76
Covers, Nipple 95
Covers, Obround Series 73, 74
Covers, SE Series 86
Covers, SEH Series 86
Covers, SK Series 85
Elbows, Conduit 89
Elbows, Condulet 99
Expansion Joints, Type XJ.. 88
Explosion-Proof Equipment 91
Fixture Hangers 85, 110–112
Gaskets, Form 8 75
Gaskets, FS-FD Series 80
Gaskets, Mogul Series 76
Gaskets, Obround Series 72
Gaskets, SK Series 85
Hangers, Fixture 88
Hub Nuts and Sleeves, Condulet 94
Hub Plates 88, 98, 120
Lamps, Hand 103
Lamps, Hand, Portable 109
Lamps, Portable 103

Page

Crouse-Hinds Lighting Fixtures 85, 87, 90, 102–110
Panelboards, Circuit Breaker 137, 138
Pedestals, Condulet 88
Plugs, Interlocking 124
Plugs, Pipe 99
Plugs, Receptacle 121
Plugs, Watertight 79
Plugs and Receptacles....112–119
Receptacle Housings, Plug 79, 80, 85, 87, 122
Receptacles, Plug 90
Reducers, Condulet 100, 101
Reflectors 103
Switch and Condulet, Safety 124
Switch Units, Replacement.. 126
Tees 89
Unions, Conduit 99
Valves, Drain and Breather 102
Visularm 140, 141
Wire Supports 88
Crow Bars, Oshkosh..... 947
Current Carrying Capacities of Conductors 222
Measuring Set, G-E..... 485
Transformers, G-E 477
Curtis Incandescent Units..780, 789
Industrial Units 820
Lighting Equipment, Recessed 788, 789
Lighting Units, Fluorescent 764–767
Lighting Units, Wall-Strip .. 770
Luminaires, Fluorescent 764–767, 820
Mogul CurtiStrip 771
Reflectors 773
Show Window Lighting..... 773
CurtiStrip 201
Mogul, Curtis 771
CurtiStrip Fittings and Accessories 772
Units 771, 772
Cutouts, Dropout, Disconnecting, G-E 725
Film, G-E 726
Fuse, Enclosed, G-E 374, 544–551
Fuse, Plug, G-E 375
Fuse, Oil, G-E 550, 551
Fuse, Oil, G & W..... 552
Plug, G-E 724
Cutters, Armor, Ideal..... 977
Cable, Ideal 977
Concrete, Conduit, Cope..... 955
Dog-Tooth, Conduit, Cope.... 955
Knockout, Greenlee 988
Milling Commutator, Ideal.. 976
Pipe, Armstrong 939
Wire, Bartlett 953
Wire, Chance 962
Cutting Oil, Armstrong..... 939

D

Day-Brite Downlites, Derby.... 787
Fixtures, Recessed 786, 787
Fixtures, Showcase 779
Fluorescent Lighting Fixtures 758–763
Hangers, Fixture 829
Lighting Accessories 829
Lighting Units 787
Lighting Units, Fluorescent 826–828
Lights, Aisle 804

Page

Day-Brite Plexoline System.... 758
Signs, Exit 804
Troffers, Fluorescent, Recessed 748, 749
Dazor Floating Lamps.....812–814
Delta Electric Lanterns.....1003
Flashlights 1006
Deltabeston Cable, Mine Locomotive, G-E 269
Cable, Power, G-E 264–268
Cable, Station Control, G-E 269
Cable, Switchboard Hinge, G-E 276, 277
Cords, Flexible, G-E 274
Cords, Locomotive Cab, G-E 279
Cords, Permanent Wave Machine 273
Wire, Aircraft, G-E 280–283
Wire, Appliance, G-E 270–273
Wire, Appliance Lead, G-E.. 277
Wire, Boiler Room, G-E 265, 267
Wire, Fixture, G-E 275
Wire, Locomotive Headlight, G-E 279
Wire, Range, G-E 270
Wire, Rheostat, G-E 278
Wire, Switchboard, G-E 276–278
Demagnetizers, Ideal 1010
Derricks, Construction, Utility 968
Desk Fans, G-E..... 671
Lamps, Adjustable, Dazor 812–814
Pushes, Edwards 696
Devices, Wiring, Monowatt 390–398
Diamond Anchors, Calking..... 926
Anchors, Hammer Drive 926
Anchors, Screw 926
Bolts, Expansion 930
Clamps, Cable 41
Clamps, Conduit 41
Drill Points 990
Drills, Diamide 990
Drills, Twist 989
Holders, Drill 989
Rings, Bridle 933
Rings, Drive 933
Screw Eyes, Insulated..... 933
Shields, Expansion 930
Straps, Cable 41
Diamond G Locknuts, Reducing 65
Seals, Knockout 65
Washers, Reducing 65
Diestocks, Armstrong 940
Diffusers, Glassteel, Miller-Ivanhoe 839
Diggers, Oshkosh 949
Digging Bars, Oshkosh..... 947
Spuds, Oshkosh 948
Dimensions, Conductor 223
Remote-Control Components, G-E 388, 389
Dimming Equipment, Light, Powerstat 808–810
Distribution Panelboards, Power, Trumbull 446
Systems, Flex-A-Power, Trumbull 449–457
Systems, Power, Feedrail 203–206
Systems, Power, Pierceway 202
Dividers, Spring, B & S..... 993
Dixie Floor Treads..... 696
Door Chimes, Edwards.....678, 679
Openers, Edwards 698

Page

Door Switches, P & S..... 404
Doorbell Transformers, Edwards 699
Transformers, Faraday 699
Doorbells, Edwards 680
Downlights, Derby, Day-Brite 787
Kliegl 806
Drawbars, Utility 968
Drill Bits, Mephisto..... 991
Bits, Paine 989
Holders, Diamond 989
Points, Diamond 990
Stands, Thor 971
Drills, Diamide, Diamond..... 990
Electric, Thor 970, 971
Masonry, Carboloy 988
Twist, Diamond 989
Drive Rings, Diamond..... 933
Drops, Constant Ringing, Edwards 700
Dry Cells, Columbia.....1006
Duct Accessories, Q-Floor, G-E 185–191
Systems, Pierceway 202
Systems, Q-Floor, G-E ..180–191
Ducts, Header, Q-Floor Wiring, G-E 183, 184
Duff-Norton Braces, Trench.... 958
Jack Screws 958
Jacks 957
Jacks, Cable Reel 958
Jacks, Pipe Forcing 958

E

Eagle Elements, Heating..... 422
Elements, Iron 422
Elements, Toaster 422
Flasher Buttons 422
Sign Assembly, Winker..... 422
Winker Buttons 422
Winkers 422
Edwards Adaptabels 681
Adaptahorn 678
Alarm Devices, Burglar 700
Alarm Stations, Fire 701
Annunciator Features 687
Annunciators 684–686
Annunciators, Nurses' Station 690
Annunciettes 684
Bells, Burglar Alarm 680
Bells, Dixie 680
Bells, Door 680
Bells, Economy 681
Bells, Lungen 680
Bells, Monitor 680
Bells, Nubel 680
Blocks, Push Button..... 696
Buzzers, Dixie 680
Buzzers, Lungen 680
Buzzers, No-Contact 680
Contactors, All-Purpose 700
Chimes, Directory 679
Chimes, Door 678, 679
Chimes, Twist 678
Clock Systems, Centrally-Controlled 693
Drops, Annunciator 687
Drops, Constant Ringing 700
Floor Matting, Alarm..... 700
Flushcall Devices 679
Horns 678
Horns, Screech 678
Lokator Systems 692
Nurses' Call Systems.....689, 690
Openers, Door 698
Panels, Push Button..... 694

Page

Edwards Plates, Push Button.. 698
Plates, Switch Box 697
Program Instruments 694
Push Buttons 695
Push Buttons, Elevator Call 697
Pushes, Card-Holder Type.. 698
Pushes, Desk 696
Pushes, Entrance 698
Pushes, Floor 696
Pushes, Pendant 695
Pushes, Program Bell Panels 697
Pushes, Return Call 695
Receptaplugs 696
Relays, Burglar Alarm..... 700
Sirens 678
Springs, Burglar Alarm..... 700
Stations, Emergency 701
Stations, Fire Alarm 701
Stations, Return Call 687
Switches, Bell Pull 697
Switches, Lock, Burglar Alarm 700
Telephone Systems, Intercommunicating 702
Telephones, Apartment House 703, 704
Transformers, Chime 699
Transformers, Doorbell 699
Transformers, Signaling 699
Treads, Floor 696
Elbows, Conduit, Everdur..... 11
Conduit, Long-Radius, G-E 10
Conduit, Orangeburg 881
Condulet, Crouse-Hinds 89, 99
E.M.T., G-E 21
Fibreduct, G-E 174
Wireway, Keystone 192
Electrical Metallic Tubing, Excerpts from N.E. Code 20
Metallic Tubing, G-E 21
Metallic Tubing Connectors 20
Metallic Tubing Connectors, Tomic 23
Metallic Tubing Couplings .. 20
Metallic Tubing Couplings, Tomic 23
Paint, Insulating 347
Tape, Scotch 346, 347
Electrician's Bits, Greenlee.... 990
Knives, Klein 984
Scissors, Klein 984
Electronic Tubes, G-E.....460–464
Elements, Heating, Eagle..... 422
Iron, Eagle 422
Toaster, Eagle 422
Elevator Annunciator Cable.... 292
Ells, Entrance, G-E.....18, 22
Elreco Insulators, Strain..... 918
Emerson Staples, Insulated..... 933
Nails, Metal Wiring..... 933
Enclosed Fuse Cutouts, G-E 374, 544–547
Fuses, Nonrenewable, G-E.. 377
Fuses, One-Time, G-E 377
Fuses, Renewable, G-E 376
Switches, Trumbull 424–428
End Bushings, T & B..... 16
Fittings, O.Z. 14
Enlargers, Conduit, G-E..... 12
Entrance Cable, Service, G-E 257, 258
Caps, G-E 18, 22, 36
Ells, G-E 18, 22
Fittings, G-E 18, 30
Fittings, Service, G-E 34, 35

Page

Erickson Couplings, G-E..... 13
Etchers, Electric, Ideal.....1011
Everdur Conduit 11
Couplings, Conduit 11
Elbows, Conduit 11
Fittings, Conduit 11
Tubing, Electrical Metallic.. 8
Raceways, Seamless 11
Eveready Batteries, Blasting....1007
Batteries, Flashlight 1006
Batteries, Lantern 1006
Batteries, Radio 1007–1009
Batteries, Telephone 1007
Dry Cells 1006
Flashlights 1005, 1006
Lenses, Flashlight 1006
Ever-Lok Connectors,
R & S.....415, 416, 418–421
Plugs, R & S....415, 416, 418–421
Receptacles, R & S.....415–421
Exit Signs, Day-Brite 804
Expansion Anchors, Paine..... 927
Bolts, Ackerman-Johnson 925
Bolts, Diamond 930
Bolts, Star 929
Joints, Type XJ,
Crouse-Hinds 88
Shields, Diamond 930
Shields, Keystone 930
Shields, Paine 927
Shields, Star 929
Expansive Bits, Greenlee..... 990
Explosion-Proof Equipment,
Crouse-Hinds 91
Panelboards, R & S.....156, 157
Receptacles and Plugs,
R & S..... 157
Extension Arms, Levolier..... 412
Rings, Outlet Box, G-E.....52, 53
Extensions, Conduit,
Crouse-Hinds 77, 81–84, 95
Fixture, G-E 19
Eye Bolts, Paine..... 932
Eyes, Screw, Insulated,
Diamond 933

F

Fan Hanger Outlets, G-E..... 366
Fans, Desk, G-E..... 671
Floor, G-E 672
Ventilator, G-E 672
Ventura, American
Blower 654–661
Window, American Blower 669
Faraday Bells, Heavy
Duty 681, 682
Bells, Mono-Coil 683
Bells, Single Stroke 681
Bells, Uni-Pact 681
Bells, Vibrating 681–683
Boxes, Fire Alarm..... 702
Buzzers 682
Chimes 683
Horns, Industrial 674
Signaling Devices, Hospital 691
Sirens 675
Transformers, Chime 699
Transformers, Doorbell 699
Transformers, Powacall 699
Trumpets, Air 675
Federal Air Whistles..... 676
Alarm Boxes, Fire..... 676
Bushings, Porcelain 325
Horns 677
Signakall 676
Sirens 676
Feeders, Cable, Cope..... 956

Page

Feedrail Distribution Systems,
Power 203–206
Jacks, Plug-In 204
Tracks, Power 203–205
Trolleys 204–206
Fiberduct, G-E 171–179
Fiberduct Boxes, Junction,
G-E 172, 173
Fittings, G-E 171–179
Screws, Leveling, G-E..... 174
Tool Kits, G-E..... 178
Tools, G-E 179
Fibre Conduit, Orangeburg..... 880
Conduit Fittings,
Orangeburg 881–883
Pulleys, Rockwood 631
Filling Compounds, G-E..... 338
Fire Alarm Boxes, Faraday..... 702
Alarm Boxes, Federal..... 676
Alarm Stations, Edwards.... 701
Pots, C & L.....995, 996
Firestone Tape, Friction..... 345
Fish Tape, Ideal..... 945
Tape, T & B..... 944
Tape Balls, T & B..... 944
Tape Reels and Pullers,
Ideal 945
Fittings, Briegel, E.M.T., G-E.. 23
Cable, Service Entrance,
G-E 34, 35
Conduit, Adalet 15, 16
Conduit, Crouse-Hinds 89
Conduit, Everdur 11
Conduit, G-E 12, 13, 17–19
Conduit, O.Z. 17
Conduit, Sealtite 12
Conduit, T & B.....16, 18
Conduit Box, R & S..... 159
CurtiStrip 201
E.M.T., G-E 22
End, O.Z. 14
Entrance, G-E 18, 30
Expansion, O.Z. 17
Fiberduct, G-E 171–179
Ground, G-E 39, 40
Raceway, Wiremold 193–200
Wireway, Keystone 192
Fittings and Accessories,
CurtiStrip 772
Fixture Extensions, G-E..... 19
Hangers, Crouse-
Hinds 85, 88, 110–112
Hangers, Day-Brite 829
Hangers, Paine 64
Hangers, Wakefield 783
Receptacles, P & S..... 408
Sockets, McGill 412
Studs, G-E 19
Studs, Kwikon 19
Tester, Fluorescent,
Flur-Test 878
Wire, Deltabeston 276
Wire, G-E 224
Wire, Type RF 288
Fixtures, Fluorescent,
Day-Brite 758–763, 826–828
Fluorescent,
Holophane 752–754
Lighting, Adjustable,
Swivelier 799–803
Lighting, Alabax 815–819
Lighting, Commercial,
Miller 781
Lighting, Commodore 783
Lighting, Crouse-
Hinds 102–104
Lighting, Enclosed,
Holophane 835

Page

Fixtures, Lighting, Explosion-
Proof, R & S..... 166
Lighting, Fluorescent,
Garcy 778
Lighting, High Bay,
Miller-Ivanhoe 840, 841
Lighting, Holophane
..... 782, 790–794, 830–835
Lighting, In-Bilt,
Holophane 790–794
Lighting, Industrial, Crouse-
Hinds 85, 87, 90, 102–110
Lighting,
Miller 746, 747, 755–757
Lighting, Miller-Ivanhoe 842
Lighting, Outdoor,
Holophane 834
Lighting, Recessed,
Prescolite 795, 796
Lighting, Recessed,
Pry-Lite 797, 798
Lighting, Vaportight,
R & S.....167, 168
Recessed, Day-Brite 786
Recessed, Kliegl 806
Vaportight, Crouse-
Hinds 85, 87, 105–109
Watertight, R & S..... 743
Flamenol Cable, G-E..225–228, 242
Flanges, Ceiling, Kindorf..... 50
Hanger, Kindorf 47
Flasher Buttons, Eagle..... 422
Flashers, Sign, Reco..... 811
Flashlight Batteries,
Eveready 1006
Lenses, Eveready 1006
Flashlights, Delta 1006
Eveready 1005, 1006
Justrite 1001
Flex-A-Power, Trumbull ..449–457
Flexible Conduit, Non-
Metallic 30
Cords 291
Cords, Deltabeston 274
Couplings, Type EC,
Crouse-Hinds 99, 100
Steel Conduit 25
Flex-Lites, Zoo 1004
Floodlight Lampholders,
Steber 850–852
Lenses, Color, Steber..... 850
Towers, Ideco 744
Floodlights, General-
Purpose, G-E 739, 740
Handy, G-E 740, 741
Heavy-Duty, G-E 737
Kliegl 807
Sports and Area, G-E.....738, 739
Steber 847, 850–852
Swimming Pool, R & S..... 743
Underwater, G-E 741, 742
Floor Box Accessories, G-E..... 68
Boxes, Gang, G-E 67
Boxes, G-E 66–68
Furnaces, Wesix 648
Outlets, P & S..... 405
Pushes, Edwards 696
Treads, Dixie 696
Treads, Edwards 696
Fluorescent Fixture Tester,
Flur-Test 878
Fixtures, Garcy 778
Fixtures, Holophane 752–754
Fixtures, Showcase,
Day-Brite 779
Lamp and Starter Tester,
Compco 878
Lamp Ballasts, G-E.....494–496
Lampholders, G-E 356–359

Page

Fluorescent Lamps, Adjustable, Dazor 812, 813
Lighting Fixtures, Day-Brite 758–763, 826–828
Lighting Fixtures, Miller 746, 747, 755–757, 821–825
Lighting Units, Curtis....764–767
Lighting Units, Wakefield 768–770
Luminaires, Curtis 764–767, 820
Luminaires, Wakefield ..768–770
Reflectors, Wiremold 774, 775, 777
Starters, G-E 355
Troffers, Recessed 747–749
Units and Fittings, Wiremold 774–777
Flur-Test Flourescent Fixture Tester 878
Flushcall Devices, Edwards.... 679
Flux, Soldering, Allen..... 329
Footlights, Kliegl 805
Formers, Conduit Elbow, Henderson 944
Frames, Hack Saw, Capewell.. 987
Friction Tape, Firestone..... 345
Tape, J-M 345
Tape, Manson 345
Furnaces, Floor, Wesix..... 648
Fuse Clip Clamps, Ideal..... 375
Cutouts, Enclosed, G-E 374, 544–551
Cutouts, Plug, G-E..... 375
Holders, Buss 377
Links, Renewal, G-E..... 376
Puller and Test Light, Ideal 379
Puller Switches, Trumbull.. 431
Pullers, Ideal 379
Reducers, Ideal 374
Fuses, Auto, Buss..... 378
Glass Tube, Buss..... 378
Link, G-E 378
Nonrenewable, Enclosed, G-E 377
One-Time, Enclosed, G-E.... 377
Plug, G-E 375
Radio, Buss 378
Renewable, Enclosed, G-E.. 376
Secondary, G-E 549

G

G & W Compounds, Insulating 348
Cutouts, Fuse, Oil..... 552
Kit, Cable Splicing..... 348
Potheads 298–300
Galvanized Cord, Arc Lamp.... 920
Steel Strand 922
Wire, Telegraph 922
Wire, Telephone 922
Gang Boxes, G-E..... 56
Gaps, Isolating, G-E..... 537
Neutral, G-E 537
Garcy Lighting Fixtures, Fluorescent 778
Gaskets, Conduit, Form 8 Series 75
Conduit, FS-FD Series 80
Conduit, Mogul 76
Conduit, Obround Series 72
Conduit, SK Series 85
Gauges, Armature Air Gap, Ideal 976
Screw Pitch, B & S..... 993

Page

Gauges, Vacuum, Thermocouple, G-E 490
Wire, American 993
Gauss Meter, G-E..... 490
G-E Accessories, Floor Box.... 68
Accessories, Wiring, Street Lighting 719
Adapters, Angle 17
Adapters, Knockout 64
Adapters, Lampholder 354
Adapters, Panel Box 17
Adhesives 339
Airport Lighting 733
Apparatus Leads 251
Arms, Mast, Street Lighting.. 718
Arresters, Capacitor-Type .. 544
Arresters, Lightning 535–542, 722
Attachment Plugs 390
Autotransformers 470
Autotransformers, Service .. 504
Autotransformers, Phase Changing 505
Auxiliary Equipment, Airport Lighting 736
Ballasts, Circline Lamp 495
Ballasts, Cold-Cathode Lamp 495
Ballasts, Fluorescent Lamp 494–496
Ballasts, Mercury Lamp 500
Ballasts, Mercury-Vapor Lamp 501, 502
Ballasts, Slimline Lamp 495
Bases, Lampholder, Lumiline 355
Bases, Motor, Twist-Lock 368–370
Bases, Plug, Twist-Lock..... 368
Battery Chargers 650–652
Beacons, Traffic 727
Bearings, Ball, Watthour Meter 471
Boards, Terminal 581, 582
Bodies. Connector 363
Bodies, Connector, Polarity 364, 365
Bodies, Connector, Twist-Lock 368–370
Bodies, Lampholder 350
Bodies, Plug, Attachment .. 366
Bodies, Plug, Twist-Lock.... 367
Boxes, Bar Hanger 54
Boxes, Concrete 55
Boxes, Floor 66–68
Boxes, Floor, Gang 67
Boxes, Gang 56
Boxes, Junction, Fiberduct 172, 173
Boxes, Outlet 52–54
Boxes, Switch 52
Boxes, Utility 55
Brackets, Pipe, Street Lighting 718
Bridge, Double, Portable..... 490
Bulbs, Rectifier, Tungar..... 650
Bushings, Bonding 39
Bushings, Conduit 12
Bushings, Grounding 39
Cabinetrol Unit Equipments 619
Cable, Aerial 237, 238
Cable, Armored, BX-BXI..... 287
Cable, Bus-Drop 228
Cable, Control 244
Cable, Dredge and Shovel.. 247
Cable, Drive-In Theater 229
Cable, Flamenol 225–228, 242
Cable, General Purpose 232, 234–236, 239, 240

Page

G-E Cable, Geoprene.....243–247
Cable, Geotrol 226
Cable, Heating 638
Cable, Insulated 252, 253, 255, 257, 258, 261, 262
Cable, Interlocked-Armor .. 259
Cable, Leaded 254
Cable, Mine Locomotive, Deltabeston 269
Cable, Mine Telephone 229
Cable, Neon Sign 228
Cable, Parkway 236
Cable, Portable 244–250
Cable, Power, Deltabeston 264–268
Cable, Rubber-Insulated 234–236, 247–250
Cable, Service
Cable, Service Entrance 230
Cable, Station Control 227
Cable, Station Control, Deltabeston 269
Cable, Super Coronol-Geoprene 233
Cable, Switchboard Hinge, Deltabeston 276, 277
Cable, Traffic Control 227
Cable, Versatol-Geoprene .. 231
Cable, Welding 232
Capacitor Equipment 532
Capacitor Units 532
Capacitors, High-Frequency 534
Capacitors, Permafil 534
Capacitors, Pyranol 532–534
Caps, Connector 370
Caps, Entrance 18, 22, 36
Caps, Lampholder 350
Caps, Lampholder, Lumiline 355
Caps, Plug 363
Caps, Plug, Attachment 366
Caps, Plug, Polarity 364, 365
Caps, Plug, Twist-Lock 367–369
Caps, Range Outlet 365
Cements 339
Circuit Breakers, Air ..558–561
Circuit Breakers, Power 565–570
Circulators, Floor 672
Clamps, Ground 39
Clocks, Commercial 1011
Compounds, Filling 338
Compounds, Grouting 178
Compounds, Sealing 338
Conduit, Rigid 9, 10
Conduit, Steel, Flexible 25
Conduit Data 8
Connectors, Angle 22
Connectors, Briegel, E.M.T. 23
Connectors, Cable 25–28, 30–32, 34, 35
Connectors, Conduit 25–28
Connectors, E.M.T. 22
Connectors, Pressure 314
Connectors, Raintight 22
Connectors, Switch 394
Connectors, Watertight 34, 35
Contactors, Motor 615
Control Equipment, Airport Lighting 734, 735
Controller, Street Lighting.. 722
Controllers, Synchronous-Motor 618
Controllers, Traffic 727
Cord Sets 379
Cord Sets, Extension 379
Cord Sets, Heater 379
Cord Sets, Range 366

Page

G-E Cords, Deltabeston 273
Cords, Flexible, Deltabeston 274
Cords, Geoprene, Portable .. 243
Cords, Heater, PreenX 243
Cords, Locomotive Cab, Deltabeston 279
Cords, Permanent Wave Machine 273
Cords, Rip 242
Cords, Rubber-Jacketed 241, 242
Cords, Shot Firing 251
Couplings, Briegel, E.M.T... 23
Couplings, Conduit 17
Couplings, E.M.T. 22
Couplings, Erickson 13
Couplings, Fiberduct 171
Couplings, Multilet 13
Couplings, Raintight 22
Covers, Concrete Box 55
Covers, Multilet 55
Covers, Outlet Box 53, 54
Covers, Utility Box 55
Crossunders, Fiberduct 174
Current Measuring Set..... 485
Cutouts, Dropout, Disconnecting 725
Cutouts, Film 726
Cutouts, Fuse, Enclosed 374, 544–551
Cutouts, Fuse, Oil 550, 551
Cutouts, Fuse, Plug 375
Cutouts, Plug 724
Elbows, Conduit, Long-Radius 10
Elbows, E.M.T. 21
Elbows, Fiberduct 174
Electrical Metallic Tubing.... 21
Ells, Entrance 18, 22
Enlargers, Conduit 12
Entrance Fittings 30
Extension Rings, Outlet Box 52, 53
Fans, Desk 671
Fiberduct 171–179
Fittings, Briegel, E.M.T. 23
Fittings, Conduit ..12, 13, 17–19
Fittings, E.M.T. 22
Fittings, Entrance 18
Fittings, Fiberduct 171–179
Fittings, Ground 39, 40
Fittings, Service Entrance Cable 34, 35
Fixture Extensions 19
Flashtubes 876
Floodlights, General Purpose 739, 740
Floodlights, Handy 740, 741
Floodlights, Heavy-Duty 737
Floodlights, Sports and Area 738, 739
Floodlights, Underwater 741, 742
Fuses, Link 378
Fuses, Nonrenewable, Enclosed 377
Fuses, One-Time, Enclosed.. 377
Fuses, Plug 375
Fuses, Renewable, Enclosed 376
Fuses, Secondary 549
Gage, Vacuum, Thermocouple 490
Gaps, Isolating 537
Gaps, Neutral 537
Gear-Motors 603–608
Gluepots, Automatic 642
Glyptal 331, 332
Goosenecks 19

Page

G-E Grip Connectors..... 394
Hangers, Bar 54
Hangers, Street Lighting 719
Heaters, Convection 639–641
Heaters, Immersion 636
Heaters, Strip 637
Improv-A-Lites 395
Inductrols 531, 532
Industrial Cleaners, Vacuum 998–1000
Instruments, Portable ..486–490
Instruments, Recording 484, 485
Instruments, Switchboard 478–481
Insulation, Mica 341
Insulets, Cable 32
Insulets, Conduit 18
Irons, Soldering 643, 644
Keys, Switch, Locking..... 361
Lampholder Sockets 392
Lampholders, Candelabra .. 353
Lampholders, Cleat 353
Lampholders, Fluorescent 356–359
Lampholders, Miniature 354
Lampholders, Mogul 353
Lampholders, Porcelain 351–354
Lampholders, Textolite 352, 353
Lamps, Appliance 871
Lamps, Automotive 877
Lamps, Aviation 875
Lamps, Clear 870
Lamps, Circline 872
Lamps, Colored 871
Lamps, Country Home 871
Lamps, Daylight 870
Lamps, Decorative 871
Lamps, Drying 874
Lamps, Flashlight 877
Lamps, Floodlight 873
Lamps, Fluorescent 872
Lamps, General Service 870
Lamps, Germicidal 874
Lamps, High Voltage 873
Lamps, Indicating 580, 581
Lamps, Infrared Heat 874
Lamps, Locomotive Headlight 878
Lamps, Locomotive Lighting 875
Lamps, Lumiline 871
Lamps, Mercury 874
Lamps, Mine 878
Lamps, Miniature 877
Lamps, Photo 876
Lamps, Photoflash 876
Lamps, Photoflood 876
Lamps, Photographic Enlarger 876
Lamps, Projection 873
Lamps, Projector 873
Lamps, Radio Panel 877
Lamps, Reflector 873
Lamps, Rough Service 873
Lamps, Sealed Beam 877
Lamps, Showcase Reflector.. 874
Lamps, Sign 871
Lamps, Silvered Bowl 871
Lamps, Slimline 872
Lamps, Spotlight 873
Lamps, Stereopticon 873
Lamps, Street Lighting 1062
Lamps, Street Railway 875
Lamps, Sun 874
Lamps, Three-Lite 871
Lamps, Toy Train 877
Lamps, Traffic Signal 875

Page

G-E Lamps, Train Lighting..... 875
Lamps, Tubular 874
Lamps, Vibration Service .. 873
Lamps, White 871
Links, Fuse 548, 549, 551
Links, Fuse, Renewal 376
Locknuts, Conduit 12
Luminaires, Island 742
Luminaires, Mercury 713, 714
Luminaires, Pendant, Street Lighting 711–713
Luminaires, Sodium 713
Meter Jewels 471
Meters, Demand, Watthour 472–474
Meters, Gauss 490
Meters, Light 878
Meters, Power-Factor, Hook-On 489
Meters, Switchboard 469
Meters, Time 476, 477
Meters, Watt-Demand, Thermal 474
Meters, Watthour 466–474
Motor Leads 234
Motors, Heating and Ventilation 600
Motors, Induction 589–597
Motors, Industrial 598–600
Motors, Pump and Water System 601
Motors, Replacement 600, 601
Motors, Synchronous 609
Motors, Utility 602
Motors, Washing Machine .. 601
Motors and Control, Selection of 586–588
Multilets 55
Nipples, Chase 13
Nipples, Conduit 10
Nipples, Meter Service 10
Oil, Meter Jewel 471
Oil Testers, Portable..... 524
Outlet and Plate..... 387
Outlets, Clock Hanger 366
Outlets, Combination 390
Outlets, Convenience 362–365
Outlets, Convenience, Twist-Lock 368–370
Outlets, Fan Hanger 366
Outlets, Flush 367, 390
Outlets, General Utility 68
Outlets, Outdoor 366
Outlets, Polarity 364, 365
Outlets, Range 365
Outlets, Surface 390, 391
Outlets, Weather-Resistant .. 366
Paints, Insulating 331–335
Panel Instruments 481–483
Photoelectric Accessories 627, 628
Photoelectric Devices 626, 627
Plates, Blank 371–373
Plates, Brass 372, 373
Plates, Chromium 372
Plates, Combination 371–373
Plates, Convenience Outlet 371–373
Plates, Gooseneck 19
Plates, Sill 36
Plates, Special 373
Plates, Switch, Push 371–373
Plates, Switch, Tumbler 371–373
Plates, Uniline 371
Plates, Wall 386
Plug Bodies 390
Plug Casing, Fuse 375
Pots, Metal-Melting 641, 642

Page

G-E Protection Equipment, Lightning, Rotating Machine 542, 543
Protectors 723
Protectors, Meter 538
Protectors, Service 538
Q-Floor Wiring System 180–191
Receptacles, Ceiling 351
Receptacles, Pilot Light 371
Receptacles, Street Lighting 720
Rectifier Stacks 652
Reducers, Conduit 13
Reducers, Tubelet 13
Refractors, Holophane 716
Regulators, Voltage 530, 531
Relays, Auxiliary 582, 583
Relays, Remote-Control 387
Renewal Parts 610
Rosettes, Porcelain 353
Screws, Leveling, Fiberduct 174
Shadeholders 354
Signals, Traffic 728–730
Sleeves, Insulating 13
Sockets, Starter, Fluorescent Lamp 359
Sockets, Street Lighting 720
Soldering Materials 328
Standards, Portable 470
Standards, Street Lighting, Aluminum 715
Staples 30, 32
Stapling Gun 388
Starters, Fluorescent Lamp 355
Starters, Time 619
Starters, Time, Heavy-Duty 620
Starters, Magnetic 614, 616–618
Starters, Manual 614
Stations, Push Button 620, 621
Straps, Cable 30, 32, 36
Straps, Pipe 19
Street Lighting Equipment 710–720
Studs, Fixture 19
Substations, Load Center 584
Supports, Reel 388
Supports, Service Cable 36
Supports, Switch Box 54
Switch and Plate, Combination 391
Switchboards, Metal-Enclosed 555–557
Switches, Canopy 360
Switches, Control, Circuit Breaker 571–574
Switches, Float 621
Switches, Heater 360
Switches, Knife 575–577
Switches, Limit 622–624
Switches, Mercury 391
Switches, Motor Starting 612, 613, 615
Switches, Multiple 726
Switches, Panel 360
Switches, Pony-Type 360
Switches, Pressure and Vacuum 622
Switches, Remote-Control 386
Switches, Special Application 359, 360
Switches, Starter, Fluorescent Lamp 359
Switches, Thru-Cord 360
Switches, Time 475–477
Switches, Toggle 391
Switches, Transfer 571–574
Switches, Tumbler, Flush 361
Switches, Tumbler, Heavy Duty 360
Switches, Tumbler, Surface 360

Page

G-E Switchettes 629, 630
Switchgear 554
Switchgear Equipments 562–564
Taps, Socket 394
Taps, Triple 379
Terminals, Pressure 314
Test Blocks 578, 579
Test Plugs 578, 579
Thermostats, Industrial Heating 642
Thrustors 625
Thyrite By-Pass 725
Timing Devices 475–477
Tool Kits, Fiberduct 178
Tools, Briegel, E.M.T., G-E 23
Tools, Fiberduct 179
Transformers 506
Transformers, B-B 503
Transformers, Constant-Current 721
Transformers, Control 507–510
Transformers, Current 477
Transformers, Display Sign 499
Transformers, Distribution 514–522, 524–530
Transformers, Dry-Type 503, 505
Transformers, Indoor Hanger 497
Transformers, Luminous Tube 497–499
Transformers, Machine-Tool 511–513
Transformers, Outdoor 498
Transformers, Phase Changing 505
Transformers, Portable 477
Transformers, Potential 477
Transformers, Remote-Control 387
Transformers, Rural-Line 523
Transformers, Series 723, 724
Transformers, Service 503, 504
Transformers, Signal 507–510
Tubes, Electronic 460–464
Utility Unit, Remote-Control 387
Varnished Cloth and Tape 342
Varnishes, Insulating 336, 337
Ventilators, Twin-Fan 672
Vitalizer, Battery 650
Volt-Ammeter, Hook-On 489
Voltmeters, Portable 490
Wall Plates 392
Wattmeter, Hook-On 489
Wedges, Bonding 40
Wire, Aircraft, Deltabeston 280–283
Wire, Appliance 225
Wire, Appliance, Deltabeston 270–273
Wire, Appliance Lead, Deltabeston 277
Wire, Boiler Room, Deltabeston 265, 267
Wire, Fixture 225
Wire, Fixture, Deltabeston 275
Wire, Locomotive Headlight, Deltabeston 279
Wire, Machine Tool 225
Wire, Magnet 284–286
Wire, Range, Deltabeston 270
Wire, Remote-Control 226, 387, 388
Wire, Rheostat, Deltabeston 278
Wire, Switchboard, Deltabeston 276–278
Wires and Cables, Selection of 208–220

Page

G-E Wiring System, Remote Control 380–389
Gear-Motors, G-E 603–608
Geoprene Cable, G-E 243–247
Cords, Portable, G-E 243
Glass Insulators, Hemingray 890, 891
Tube Fuses, Buss 378
Glassteel Diffusers, Miller-Ivanhoe 839
Glassware, Lighting, Miller 785
Glove Protectors, Linemen's 965
Gloves, Rubber, Linemen's 965
Gluepots, Automatic, G-E 642
Glyptal, G-E 331, 332
Goodrich Belts, Grommet 633
Belts, Multicord 632
Belts, V 634
Two-In-One Tape 346
Goosenecks, G-E 19
Greenlee Benders, Conduit 943
Bits, Expansive 990
Cutters, Knockout 988
Pullers, Cable 945
Punches, Knockout 988
Pushers, Pipe 943
Tools, Knockout 988
Grinders, Bench, Thor 975
Portable, Thor 974
Grip Connectors, G-E 394
Grips, Cable, Kellems 946
Support, Kellems 304
Wire, Chicago 982, 983
Wire, Havens 983
Wire, Klein 982, 983
Ground Clamps, Burndy 312
Clamps, G-E 39
Clamps, Sherman 40
Connectors, O.Z. 40
Fittings, G-E 39, 40
Plates, Blackburn 915
Plates, T & B 915
Rod Clamps, Chance 962
Rods, Blackburn 915
Rods, Chance 962
Groundems, Burndy 312
Grounding, Excerpts from N.E. Code 37, 38
Grounding Clamps, Strap 90
Connectors, O.Z. 40
Straps, Groundulet 90
Groundulet Safety Circuit Equipment 90
Straps, Grounding 90
Terminals, Clamp 90
Guard Rails, Manhole, Cope 954
Guards, Lamp, McGill 862, 863, 865
Pike Pole, Oshkosh 947
Reflector, Steber 849
Wire, Ivanhoe 844
Gun, Stapling, G-E 388
Guy Insulators, Locke 892
Wire, Galvanized 922
Gyro-Lites, Swivelier 803

H

Hack Saw Blades, Capewell 986
Saw Blades, Simonds 985
Saw Frames, Capewell 987
Hammer Drive Anchors, Diamond 926
Hammers, Ball Pein, Capewell 987
Electric, Thor 973
Jar, Conduit, Cope 955
Hand Lamps, Portable, Crouse-Hinds 109
Lamps, U-C-Lite 1002

Page

Hanger Irons, Perforated 43
Rings, Paine 43
Rods, Kindorf 48, 50
Hangers, Bar, G-E 54
Conduit, Kindorf 47, 50
Conduit, T & B 44
Disconnect, T & B 868
Fixture, Crouse-Hinds 85, 88, 110–112
Fixture, Day-Brite 829
Fixture, Miller 784
Fixture, Paine 64
Fixture, Wakefield 783
Lowering, Thompson 853–857
Outlet Box, Paine 64
Pipe, Paine 932
Street Lighting, G-E 719
Wireway, Keystone 192
Hardware, Pole Line 897–912
Haven's Wire Grips 983
Haymow Lighting Units, Steber 849
Headlights, Justrite 1000
Heat Resisting Lenses, Steber 848
Heater Cords, PreenX, G-E 243
Elements, Eagle 422
Switches, G-E 360
Units, Trumbull 440
Heaters, Baseboard, Wesix 647
Convection, G-E 639–641
Fan Type, Thermador 648
Immersion, G–E 636
Portable, Thermador 648
Relay, Trumbull 436
Room, Wesix 647
Strip, G-E 637
Wall, Thermador 648
Hemingray Insulators, Glass 890, 891
Henderson Benders, Conduit 943, 944
Elbow Formers 944
Hickeys, Lakin, T & B 944
Silvey 944
Hoist and Puller, Blackburn 960
Hoists, Ratchet Lever, Coffing 959
Reel, Utility 969
Holders, Drill, Diamond 989
Fuse, Buss 377
Lens, Steber 848
Shade, G-E 354
Shade, Monowatt 397
Shade, Steber 849
Hole Cutters, Greenlee 988
Hollands Vises 939
Holophane Cranelites 831
Lighting Brackets 833
Lighting Fixtures, Enclosed 835
Lighting Units 782, 830–835
Lighting Units, Combination 831
Lighting Units, Fluorescent 752–754
Lighting Units, Hibay 831
Lighting Units, In-Bilt 790–794
Lighting Units, Lobay 832
Lighting Units, Outdoor 833–835
Lighting Units, Outdoor, Sub-Station 835
Refractolens 834
Hoods, Pilot Light, P & S-Despard 400
Hooks, Anchor, Klein 983
Cant, Oshkosh 947
Carrying, Oshkosh 947
Hope Sleeving, Cotton 343
Tape 343
Webbing 343

Page

Horns, Compressed Air, Federal 677
Edwards 678
Electric, Federal 677
Industrial, Faraday 674
Motor Driven, Federal 677
Screech, Edwards 678
Hospital Call Systems, Edwards 689, 690
Signaling Systems, Faraday 691
Hot Line Maintenance Equipment, Chance 962–964
Shot Batteries 1007
House Numbers, Illuminated, Pry-Lite 798
Housings, Receptacle, Plug, Crouse-Hinds 79, 80, 85, 87, 122
Hub Nuts and Sleeves, Condulet 94
Plates, Crouse-Hinds 88, 98, 120
Hydraulic Pipe Benders, Tal 942
Pipe Pushers, Greenlee 943
Hylinks, Burndy 308
Hylugs, Burndy 308

I

Ideal Abrasives 976
Brush Seater 976
Cable Ripper and Wire Gauge 977
Cement, Commutator 976
Clamps, Fuse Clip 375
Connectors, Wire 323
Cutters, Armor 977
Cutters, Commutator Milling 976
Demagnetizers 1010
Etchers, Electric 1011
Gauges, Air Gap, Armature 976
Pullers, Fish Tape 945
Pullers, Fuse 379
Reducers, Fuse 374
Reels, Fish Tape 945
Resurfacers, Commutator 976
Saws, Commutator Slotting 976
Strippers, Wire 977
Tachometer 1010
Tape, Fish 945
Test Light and Fuse Puller 379
Tester, Insulation 1010
Tester, Voltage 379
Test-Glo 378
Tools, Soldering 975
Wire-Nuts 323
Ideco Steel Towers 744
Improv-A-Lites, G-E 395
Indicators, Speed, B & S 993
Induction Motors, G-E 589–597
Inductrols, G-E 531, 532
Industrial Cleaners, Vacuum, G-E 998–1000
Horns, Faraday 674
Motors, G-E 598–600
Sockets, McGill 412
Units, Curtis 820
Infrared Ovens, Wil-Son 645
Inserts, Concrete, Kindorf 47
Instrument Condulets, Type EMH 142
Instruments, Current-Measuring, G-E 485
Panel, G-E 481–483
Portable, G-E 486–490
Program, Edwards 694
Recording, G-E 484, 485
Switchboard, G-E 478–481
Teleheight, Matthews 1011

Page

Insulated Bushings, T & B 16
Cable, G-E 252, 253, 255, 257, 258, 261, 262
Staples, Emerson 933
Insulating Bushings, Adalet 15, 16, 325
Bushings, O.Z. 16
Bushings, T & B 16
Compounds 347
Compounds, G & W 348
Compounds, McGill 347
Compounds, Minerallac 348
Compounds, O.Z. 347
Couplings, O.Z. 17
Liquids 347
Paints, G-E 331–335
Paints, Ruberoid 347
Tape, P & B 346
Varnishes, G-E 336, 337
Insulations, Cable, J-M 345
Mica, G-E 341
Silicone, G-E 340
Insulator Attachments, Locke 895, 896
Insulators, Clip, Mueller 322
Glass, Hemingray 890, 891
Guy, Locke 892
Pin Type, Locke 892, 893
Porcelain 326
Strain, Elreco 918
Strain, Keystone 918
Suspension, Locke 893, 894
Insulets, Cable, G-E 32
Conduit, G-E 18
Intercommunication Systems, Rauland 705
Inter-Matic Time Switches 492
Iron Elements, Replacement, Eagle 422
Irons, Hanger, Perforated 43
Soldering, G-E 643, 644
Ivanhoe Aligners, Outlet Box Cover 844
Guards, Wire 844

J

J-M Asbestoment 345
Ebony, Asbestos 344
Insulation, Cable 345
Millboard, Asbestos 343
Paper, Asbestos 343
Roll-Board, Asbestos 343
Tape, Friction 345
Tape, Paper, Asbestos 344
Tape, Woven 344
Transite 344
Tubing, Braided, Asbestos 344
Yarns, Asbestos 344
Jack Chain 868
Screws, Duff-Norton 958
Jacks, Cable Reel, Duff-Norton 958
Duff-Norton 957, 958
Pipe Forcing, Duff-Norton 958
Plug-In, Feedrail 204
Jake Adapters, Connector 29
Bushings, Reducing 29
Connectors, Box 29
Connectors, Conduit 29
Jewels, Watthour Meter, G-E 471
Joints, Wire, Sta-Kon, T & B 305
Jumper Clamps, Sherman 917
Junction Boxes, Cast Iron, T & B 60
Boxes, Excerpts from N.E. Code 51
Boxes, Fiberduct, G-E 172, 173
Boxes, Keystone 192

Page

Junction Boxes, O.Z. 61–63
Boxes, Porcelain, Surfolet .. 410
Conduletes, CPS Series 95, 104
Conduletes, GUA Series 92–94
Conduletes, GUF Series 93
Conduletes, Type EJB 98
Conduletes, Type EJH 95
Justrite Cans, Safety 1011
Cans, Waste 1012
Flashlights 1001
Headlights 1000
Lanterns, Hand 1001

K

Kellems Grips, Cable 946
Grips, Support 304
Kennedy Tool Kits 994
Kester Paste, Soldering 330
Salts, Soldering 330
Solder 330
Kettles, Compound, Cope 956
Keys, Switch, Locking, G-E 361
Keystone Boxes, Junction 192
Collars, Wireway 192
Elbows, Wireway 192
Fittings, Wireway 192
Hangers, Wireway 192
Insulators, Strain 918
Nipples, Wireway 192
Plates, Closing, Wireway 192
Shields, Expansion 930
T-Fittings, Wireway 192
Wireways 192
Kindorf Bolts, Machine 46
Bolts, U 48
Brackets, Wall 47, 48
Clamps, Beam 45, 47, 49
Clamps, Cable 48
Clamps, Channel 48
Clamps, Conduit 50
Clamps, I-Beam 49
Clamps, Steel 49
Clips, Anchor 49
Connectors, Angle 45
Connectors, Side Beam 50
Connectors, Swing 47
Flange, Ceiling 50
Flange, Hanger 47
Hangers, Conduit 47, 50
Inserts, Concrete 47
Rods, Hanger 48, 50
Spacers, Channel 45, 46
Straps, Conduit 46, 49
Supports, I-Beam 49
Wiring Channel 45
Kirkland Lights, Pilot 688, 689
Kitchen Units, Alabax 818, 819
Klein Bags, Tool 982
Belts, Tool 980
Clamps, Sleeve 979
Clamps, Wire 979
Climbers, Linemen's 979, 980
Grips, Wire 982, 983
Hooks, Anchor 983
Knives, Electrician's 984
Knives, Skinning 984
Knives, Splitting, Cable Sheath 984
Pads, Climbers' 980
Pliers 978, 979
Pockets, Tool 981, 982
Pouches, Rubber Glove 981
Scissors, Electrician's 984
Straps, Climbers' 980
Straps, Safety 981
Tackles, Block 983
Tool Cases, Pocket 981

Page

Klein Tool Kits, Pocket 984
Wrenches, Linemen's 984
Kliegl Borderlights 805
Boxes, Plugging 806
Color Wheels 806
Downlights 806
Fixtures, Recessed 806
Footlights 805
Klieglights 807
Lighting, Stage 805–807
Lights, Picture 806
Lights, Strip 805
Pockets and Plugs, Stage 805
Spotlights, Stage 806, 807
Klieglights, Kliegl 807
Knife Switches, G-E 575–577
Switches, Trumbull 428, 429
Knives, Electrician's, Klein 984
Skinning, Klein 984
Splitting, Cable Sheath, Klein 984
Knobs, Screw, Emily 326
Telephone, Porcelain 325
Knockout Adapter, G-E 64
Cutters, Greenlee 988
Plugs, T & B 64
Punches, Greenlee 988
Seals, Diamond G 65
Korns Supports, Conduit 44
Kwikon Studs, Fixture 19

L

Ladles, Melting, C & L 996
Lag Screws, Paine 43
Lakin Hickeys, T & B 944
Lamp Ballasts, Circline, G-E 495
Ballasts, Cold-Cathode 495
Ballasts, Fluorescent, G-E 494–496
Ballasts, Mercury, G-E 500
Ballasts, Slimline, G-E 495
Chain, Arc, American 920
Changers, Chadsey 1012
Changers, McGill 1012
Guards, McGill 862, 863, 865
Receptacles, Condulet, Obround 74
Receptacles, Watertight 413
Tester, Fluorescent, Compco 878
Lampholder Adapters, G-E 354
Bases, Lumiline, G-E 355
Bodies, G-E 350
Caps, G-E 350
Caps, Lumiline, G-E 355
Sockets, Monowatt 392, 393
Sockets, Multiple, Monowatt 394
Lampholders, Bi-Post, G-E 353
Candelabra, G-E 353
Ceiling, Monowatt 393
Cleat, G-E 353
Floodlight, Steber 850–852
Fluorescent, G-E 356–359
Miniature, G-E 353
Mogul, G-E 353
Porcelain, G-E 351–354
Prefocusing, G-E 354
Textolite, G-E 352, 353
Lamps, Adjustable, Dazor .. 812–814
Appliance, G-E 871
Automotive, G-E 877
Aviation, G-E 875
Bunghole, ProTex 867
Circline, G-E 872
Clear, G-E 870
Colored, G-E 871
Country Home, G-E 871

Page

Lamps, Daylight, G-E 870
Decorative, G-E 871
Drying, G-E 874
Flashlight, G-E 877
Flashtube, G-E 876
Floodlight, G-E 873
Fluorescent, G-E 872
General Service, G-E 870
Germicidal, G-E 874
Hand, Portable, Crouse-Hinds 103, 109
Hand, U-C-Lite 1002
Heat, Infrared, G-E 874
High Voltage, G-E 873
Indicating, G-E 580, 581
Locomotive Headlight, G-E .. 878
Locomotive Lighting, G-E .. 875
Lumiline, G-E 871
Mercury, G-E 874
Mine, G-E 878
Miniature, G-E 877
Photo, G-E 876
Photoflash, G-E 876
Photoflood, G-E 876
Photographic Enlarger, G-E 876
Pilot Light, P & S-Despard .. 400
Portable, ProTex 867
Portable, Safeway 866
Portable, VaproTex 866
Projection, G-E 873
Projector, G-E 873
Radio Panel, G-E 877
Reflector, G-E 873
Rough Service, G-E 873
Sealed Beam, G-E 877
Showcase Reflector, G-E 874
Sign, G-E 871
Silvered Bowl, G-E 871
Slimline, G-E 872
Spotlight, G-E 873
Stereopticon, G-E 873
Street Lighting, G-E 875
Street Railway, G-E 875
Sun, G-E 874
Three-Lite, G-E 871
Toy Train, G-E 877
Traffic Signal, G-E 875
Train Lighting, G-E 875
Tubular, G-E 874
Vibration Service, G-E 873
White, G-E 871
Lantern Batteries, Eveready 1006
Lanterns, Electric, Delta 1003
Hand, Justrite 1001
Lathes, Tooling, Conduit, Orangeburg 884
Lead Wire, Appliance, Deltabeston 277
Lead-Covered Wire and Cable, Rubber-Insulated 289
Leaded Cable, G-E 254
Leads, Apparatus, G-E 256
Motor, G-E 251
Lens Holders, Steber 848
Lenses, Color, Steber 848, 850
Color, Swivelier 800
Flashlight, Eveready 1006
Heat Resisting, Steber 848
Levolier Adapters, Pull 412
Arms, Extension 412
Switches, McGill 410–412
Light Dimming Equipment, Powerstat 808–810
Meters, G-E 878
Strips, Stage, Kliegl 805
Lighting, Airport, G-E 733–736
Fountain, R & S 743
Landscape, R & S 743
Show Window, Curtis 773

Page

Lighting, Showcase, Day-Brite 779
Showcase, Garcy 778
Stage, Kliegl 805–807
Underwater, R & S 743
Lighting Brackets, Holophane 833
Equipment, Recessed, Curtis 788
Equipment, Street, G-E 710–720
Fixtures, Alabax 815–819
Fixtures, Commercial, Miller 781
Fixtures, Commodore 783
Fixtures, Crouse-Hinds 102–104
Fixtures, Curtis 780
Fixtures, Explosion-Proof, R & S 166
Fixtures, Fluorescent, Day-Brite 758–763
Fixtures, Fluorescent, Garcy 778
Fixtures, Fluorescent, Miller 755–757
Fixtures, Industrial, Crouse-Hinds 85, 105–110
Fixtures, Recessed 747
Fixtures, Recessed, Day-Brite 748, 749
Fixtures, Recessed, Kliegl .. 806
Fixtures, Recessed, Prescolite 795, 796
Fixtures, Recesssed, Pry-Lite 797, 798
Fixtures, Swivelier 799–803
Fixtures, Vaportight, Miller-Adalet 843
Fixtures, Vaportight, R & S 167, 168
Glassware, Miller 785
Panelboards, Trumbull 441, 443–445
Standards 715–717
Systems, Fluorescent, Miller 746, 821–825
Units, Adjustable, Swivelier 799–803
Units, Cranelite, Holophane 831
Units, Combination, Holophane 831
Units, Day-Brite 787
Units, Enclosed, Holophane 835
Units, Fluorescent, Curtis 764–767
Units, Fluorescent, Day-Brite 826–828
Units, Fluorescent, Holophane 752–754
Units, Fluorescent, Miller 746, 755–757
Units, Fluorescent, Wakefield 768–770
Units, Haymow, Steber 849
Units, Hibay, Holophane 831
Units, High Bay, Miller-Ivanhoe 840, 841
Units, Holophane ..782, 830–835
Units, In-Bilt, Holophane 790–794
Units, Incandescent, Curtis 780, 789
Units, Industrial, Curtis 820
Units, Lobay, Holophane 832
Units, Outdoor, Holophane 834
Units, Outdoor, Sub-Station, Holophane .. 835
Units, Postop, Holophane .. 833
Units, Recessed, Day-Brite 786, 787

Page

Lighting Units, Vaportigrt, Miller-Ivanhoe 842
Units, Wall-Strip, Curtis 770
Lightning Arresters, G-E....535–541
Conduit Reamer 941
Lights, Aisle, Day-Brite..... 804
Cargo, Steber 846
Closet, Pry-Lite 798
Curb, R & S..... 743
Flex-Lite 1004
Flood, Steber 847
Handy, Auto, Monowatt..... 396
Night, Monowatt 396
Night, P & S-Despard..... 400
Night, Pry-Lite 798
Pilot, Kirkland 688, 689
Pilot, P & S-Despard..... 400
Pilot, R & S..... 162, 163
Outdoor, Sub-Station, Holophane 835
Shop, Magnet Base, Standard 868
Trouble, Standard 868
Utility, Monowatt 396
Linemen's Bags, Tool, Klein 981, 982
Belts, Klein 980
Climbers, Klein 979, 980
Devices, Protective, Rubber, Klein 965
Gloves, Rubber, Klein..... 965
Pads, Climber, Klein..... 980
Pockets, Tool, Klein..... 981, 982
Pouches, Rubber Glove, Klein 981
Protectors, Glove 965
Straps, Climber, Klein..... 980
Straps, Safety, Klein..... 981
Tools, Klein 978–984
Wrenches, Klein 984
Link Fuses, G-E..... 378
Links, Fuse, G-E.....548, 549, 551
Fuse, Renewal, G-E..... 376
Liquids, Insulating 347
Soldering, Allen 329
Load Center Substations, G-E.. 584
Centers, Trumbullite 430
Regulators, Wesix 648
Lock Switches, Burglar Alarm, Edwards 700
Locke Attachments, Insulator 895, 896
Clamps, Angle 894, 895
Clamps, Dead-End 894, 895
Clamps, Strain 894
Clamps, Suspension 893
Insulator Attachments ..895, 896
Insulators, Guy 892
Insulators, Pin Type 892, 893
Insulators, Suspension 893
Locknuts, Conduit, G-E..... 12
Reducing, Diamond G..... 65
Locomotive Cable, Mine, Deltabeston 269
Lokator Systems, Edwards..... 692
Louvers, Steber 848
Swivelier 800
Lovolt, Safeway 866
Lugs, Lock-Tite, T & B..... 306
Soldering, Sherman 317
Solderless, Blackburn 315
Solderless, O.Z. 314
Solderless, Penn-Union 315, 316
Solderless, T & B.....306, 307
Terminal, Burndy 308–310
Terminal, Penn-Union 316
Wedge-On, T & B..... 307
Lumiline Bases, Lampholder, G-E 355

Page

Lumiline Caps, Lampholder, G-E 355
Lamps, G-E 871
Luminaires, Fluorescent, Curtis 764–767, 820
Fluorescent, Wakefield ..768–770
Island, G-E 742
Sodium, G-E 713
Ornamental, G-E 713
Pendent, G-E 711–713
Mercury, G-E 713, 714
Luminous Tube Transformers 497–499
Lungen Bells, Edwards..... 680
Buzzers, Edwards 680

M

Machine Screws 935, 936
Screws, Paine 932
Tool Wire, G-E..... 225
Magnet Wire, G-E.....284–286
Magnetic Contactors, Trumbull 437, 438
Starters, Trumbull 437–439
Maintenance Equipment, Hot Line, Chance 962–964
Mandrels, Laying, Conduit, Cope 955
Testing, Conduit, Cope..... 955
Manhole Guard Rails, Cope..... 954
Manila Rope, Columbian..... 920
Manson Tape, Friction..... 345
Manual Starters, R & S..... 154
Starters, Trumbull 435
Marine Plugs, R & S.....160, 161
Receptacle and Switch, R & S..... 161
Receptacles, R & S.....160, 161
Switches, R & S..... 160
Markers, Metal, Premax..... 921
Mark-Time Switches 491, 492
Marlin Twine 920
Masonry Drills, Carboloy..... 988
Matthews Clamps, Cable..... 315
Telefaults, Woodpecker 1011
Teleheight 1011
Matting, Floor, Alarm..... 700
McGill Accessories, Lamp Changer 1012
Arms, Extension, Levolier.... 412
Changers, Lamp 1012
Coloring Fluid and Frosting 878
Compound, Insulating 347
Guards, Lamp 862, 863
Paste, Soldering 328
Sockets, Fixture 412
Sockets, Industrial 412
Sticks, Soldering 328
Switches, Levolier 410–412
Switches, Toggle 410, 411
Melting Ladles, Solder, C & L 996
Pots, C & L..... 996
Mephisto Bits, Drill..... 991
Chisels 992
Pliers 978
Saws, Compass 992
Screw Drivers 992
Snips 992
Wrenches 978
Mercury Switches, G-E..... 391
Messenger Straps, Minerallac.. 64
Metallic Tubing, Electrical, Everdur 11
Tubing, Electrical, G-E..... 21
Meter Bearings, Watthour, G-E 471
Jewels, Watthour, G-E..... 471
Service Switches, Trumbull 431

Page

Meters, Demand, Watthour, G-E 472–474
Gauss, G-E 490
Light, G-E 878
Pocket, Sterling 1009, 1010
Power-Factor, Hook-On, G-E 489
Switchboard, G-E 469
Time, G-E 476, 477
Watt-Demand, Thermal, G-E 474
Watthour, G-E 466–474
Mica Insulations, G-E 341
Microammeters, Panel, G-E 482, 483
Portable, G-E 487, 488
Switchboard, G-E 479
Micrometer Calipers, B & S 993
Millboard, Asbestos, J-M 343
Miller Glassware, Lighting 785
Hangers, Fixture 784
Lighting Fixtures, Commercial 781
Lighting Fixtures, Fluorescent 746, 755–757, 821–825
Miller-Adalet Fixtures, Vaportight 843
Miller-Ivanhoe Covers, Protective 844
Diffusers, Glassteel 839
Lighting Units, High Bay 840, 841
Lighting Units, Vaportight 842
Reflectors 836, 838, 839, 841
Sockets, Reflector 837
Milliammeters, Panel, G-E 482, 483
Portable, G-E 486–488
Switchboard, G-E 479
Millivoltmeters, Portable, G-E 487, 488
Mine Trolley Material, Elreco 918
Minerallac Compounds, Insulating 348
Straps, Messenger Cable 64
Miniature Lampholders, G-E 354
Minneapolis Reel and Meter 996
Reels, Payout 996
Reels, Payout and Take-Up 996
Wire Measuring Machine 996
Mogul Lampholders, G-E 150
Receptacles, P & S 409
Sockets, P & S 409
Monotube Poles, Union Metal 885
Monowatt Cord Sets 395, 396
Devices and Plates, Combination 398
Lampholders, Ceiling 393
Lights, Handy, Auto 396
Lights, Night 396
Lights, Utility 396
Outlets, Plug 390, 391
Plates, Wall 392
Plugs, Attachment 390
Receptacles, Cleat 393
Sockets, Lampholder 392–394
Switches 391
Wiring Devices 390–398
Motor Bases, Twist-Lock, G-E 368–370
Leads, G-E 251
Maintenance Products, Ideal 976
Starters, G-E 612–620
Starters, R & S 154
Starters, Trumbull 435–439
Motors, Fractional H-P, G-E 598–602
Gear, G-E 603–608

Page

Motors, Heating and Ventilation, G-E 600, 601
Induction, G-E 589–597
Pump and Water-System, G-E 601
Replacement, G-E 600, 601
Synchronous, G-E 609
Utility, G-E 602
Washing-Machine, G-E 601
Motors and Control, Selection of, G-E 586–588
Mouldings, Wire 889
Wood 889
Mueller Clips, Universal 322
Multilets, G-E 55

N

Nails, Metal, Emerson 933
National Cable Rings 921
Electric Code, 1951 Edition 221–223
Sleeves, Reducing 320
Sleeves, Splicing 320, 321
Tools, Splicing 322
Never-Creep Anchors, Chance 913
Nibblers, Electric, Thor 975
Nichrome Resistance Wire 296
Nicopress Sleeves 320, 321
Tools 322
Night Lights, Monowatt 396
Lights, P & S-Despard 400
Lights, Pry-Lite 798
Nipples, Conduit, Chase 13
Conduit, G-E 10
Meter Service, G-E 10
Wireway, Keystone 192
Nokorode Paste, Soldering 328
Salts, Soldering 328
Non-Metallic Cable, Sheathed 290
Conduit, Flexible 30
Numbers, House, Illuminated, Pry-Lite 798
Nurses' Call Systems, Edwards 689, 690
Nuts, Wire, Ideal 323

O

Office Wire, Damp-Proof 292
Oil, Cutting, Armstrong 939
Meter Jewel, G-E 471
Oklips, Burndy 312
Okonite Tape, Rubber 345
Openers, Door, Edwards 698
Orangeburg Conduit, Fibre 880
Fittings, Conduit, Fibre 881–883
Tooling Lathes, Conduit 884
Ornamental Luminaires, G-E 713
Oshkosh Bars, Crow 947
Bars, Digging 947
Bars, Tamping 947
Diggers 949
Guards, Pike Pole 947
Hooks, Cant 947
Hooks, Carrying 947
Peavies 947
Poles, Pike 947
Shovels 948, 949
Spoons, Post Hole 948, 949
Spuds, Digging 948
Trimmers, Tree 949
Outdoor Construction Material 897–912
Outlet Box Covers, G-E 53, 54
Box Covers, Porcelain 57
Box Hangers, Paine 64
Box Receptacles, P & S 407

Page

Outlet Boxes, Excerpts from N. E. Code 51
Boxes, G-E 52–54
Boxes, Porcelain 57
Caps, Range, G-E 365
Plates, Convenience, G-E 371–373
Outlets, Clock Hanger, G-E 366
Combination, G-E 390
Convenience, G-E 362–365, 387
Convenience, P & S-Despard 399
Convenience, Twist-Lock, G-E 367–370
Fan Hanger, G-E 366
Floor, P & S 405
General Utility, G-E 68
Outdoor, G-E 366
Plug, Monowatt 393
Polarity, G-E 364, 365
Radio, P & S-Despard 399
Range, G-E 365
Roller Cable, Appleton 860
Surface, Monowatt 390, 391
Weather-Resistant, G-E 366
Ovens, Infrared, Wil-Son 645
Roller-Tray 646
O.Z. Boxes, Junction 61–63
Bushings, Compound 302
Bushings, Insulated 14
Bushings, Insulating 16
Bushings, Sealing 302
Compounds, Insulating 347
Connectors, Copper Braid 40
Connectors, Ground 40
Connectors, Grounding 40
Connectors, Solderless 313, 314
Couplings, Insulating 17
Couplings, Split 17
Fittings, Conduit 17
Fittings, End 14
Fittings, Expansion 17
Lugs, Solderless 314
Supports, Cable 303
Terminators, Cable 301

P

P & B Tape, Insulating, Weatherproof 346
P & S Bodies, Connector 405
Cablettes 407
Caps, Plug 405
Caps, Plug, Polarized 405
Caps, Socket, Porcelain 406
Connectors, Cord 405
Outlets, Floor 405
Receptacles, Cleat 407, 408
Receptacles, Fixture 408
Receptacles, Mogul 409
Receptacles, Outlet Box 407
Receptacles, Polorized 405
Receptacles, Porcelain 407–409
Receptacles, Pull Chain 407, 408
Receptacles, Screw Ring 408
Receptacles, Sign 408
Sockets, Duplex 406
Sockets, Husk 406
Sockets, Mogul 409
Sockets, Porcelain 406, 409
Sockets, Reflector 406
Switches, Door 404
Switches, Tumbler 404
Switches, Weatherproof 404
P & S-Despard Caps, Plug 399
Covers, Metal Box 400
Hoods, Pilot Light 400
Lamps, Pilot Light 400

Page

P & S-Despard Lights, Night.... 400
Lights, Pilot 400
Outlets, Convenience 399
Outlets, Radio 399
Plate Inserts 400
Plates, Bakelite 402
Plates, Brass 402
Plates, Brown-X 401
Plates, Chrome-X 401
Plates, Convenience Outlet 401,402
Plates, Ivory 402
Plates, Ixory-X 401
Plates, Narrow 401
Plates, Name 400
Plates, Uniline 402
Plates, Wall 401, 402
Pushes, Bell 400
Reflectors, Pilot Light 400
Straps, Appliance 400
Straps, Mounting 401
Switches, Momentary Contact 398
Switches, Tumbler 398, 399
Wiring Diagrams 403
Pads, Climbers', Klein 980
Page & Hill Poles, Red Cedar.. 886
Paging Systems, Rauland 706
Paine Anchors, Bolt 927
Anchors, Expansion 927
Anchors, Screw 927
Bits, Drill 989
Bolts, Eye 932
Bolts, Toggle 931, 932
Clamps, Conduit 42
Clamps, Toggle Bolt 931
Irons, Hanger, Perforated.... 43
Hangers, Fixture 64
Hangers, Outlet Box 64
Hangers, Pipe 932
Rings, Hanger 43
Rings, Toggle 932
Screws, Lag 43
Screws, Machine 932
Shields, Expansion 927
Straps, Pipe 42
Paint, Electrical, Insulating.... 347
Insulating, G-E 331–335
Insulating, Ruberoid 347
Tree, Bartlett 953
Pancake Raceway, Wiremold 197, 199
Panel Box Adapters, G-E..... 17
Instruments, G-E 481–483
Switches, G-E 360
Panelboards, Circuit Breaker, Crouse-Hinds 137, 138
Circuit Breaker, Trumbull 441–443
Explosion-Proof, R & S..156, 157
Lighting, Trumbull 441, 443–445
Power Distribution, Trumbull 446
Panels, Push Button, Edwards 694
Residence, Trumbull 431
Paper, Asbestos, J-M..... 343
Parallel Taps, T & B..... 307
Parkway Cable, G-E..... 236
Paste, Soldering, Allen..... 329
Soldering, Kester 330
Soldering, McGill 328
Soldering, Nokorode 328
Paulding Receptacles, Porcelain 409
Payout Reels, Minneapolis..... 996
Payout and Take-Up Reels, Minneapolis 996
Peavies, Oshkosh 947

Page

Pedestals, Condulet, Crouse-Hinds 88
Pendent Luminaires, G-E..711–713
Pennies, Conduit, Austin..... 16
Penn-Union Connectors, Cable 316
Connectors, Service 315
Lugs, Solderless 315, 316
Lugs, Terminal 316
Taps, Cable 316
Photo Lamps, G-E..... 876
Photoelectric Accessories, G-E 627, 628
Devices, G-E 626, 627
Pick-Ups, Tool, Conduit, Cope 955
Picture Lights, Kliegl..... 806
Pierceway Wiring Systems..... 202
Pike Pole Attachments, Bartlett 951
Poles, Oshkosh 947
Pilot Light Condulets..... 132
Light Receptacles, G-E 371
Light Units, Kirkland ..688, 689
Lights, P & S-Despard..... 400
Lights, R & S..... 162, 163
Pin Type Insulators, Hemingray 890, 891
Insulators, Locke 892, 893
Pine Poles, Yellow..... 887
Pins, Insulator, Wood..... 889
Pipe Benders, Greenlee..... 943
Benders, Tal 942
Cutters, Armstrong 939
Ends, Adalet 15
Hangers, Paine 932
Pushers, Greenlee 943
Straps, G-E 19
Straps, Paine 42
Threaders, Capewell 941
Threading Tools, Armstrong 939, 940
Tongs, Vulcan, Williams..... 941
Tools, Capewell 941
Vises, Armstrong 938
Plastic Straps, Cable..... 42
Plate Inserts, Blank, P & S-Despard..... 400
Plates, Bakelite, P & S-Despard 402
Blank, G-E 371, 373
Brass, G-E 372, 373
Brass, P & S-Despard..... 402
Brown-X, P & S-Despard..... 401
Chrome-X, P & S-Despard.... 401
Chromium, G-E 372
Closing, Wireway, Keystone 192
Combination, G-E 371–373
Convenience Outlet, G-E 371–373
Convenience Outlet, P & S-Despard..... 401, 402
Gooseneck, G-E 19
Ground, Blackburn 915
Ground, T & B..... 915
Hub, Crouse-Hinds 88, 98, 120
Ivory, P & S-Despard..... 402
Ivory-X, P & S-Despard..... 401
Name, P &S-Despard..... 400
Narrow, P & S-Despard..... 401
Push Button, Edwards..... 698
Sill, G-E 36
Special, G-E 373
Switch, Push Button, G-E 371–373
Switch, Tumbler, G-E ..371–373
Switch Box, Edwards..... 697
Telephone, G-E 371, 373
Uniline, G-E 371
Uniline, P & S-Despard..... 402
Wall, G-E 371–373, 386

Page

Plates, Wall, Monowatt..... 392
Wall, P & S-Despard.....401, 402
Platform, Aerial, Utility..... 969
Plexoline System, Day-Brite.... 758
Pliers, Champion DeArment.... 978
Channelock 978
Klein 978, 979
Mephisto 978
Plug Bases, Twist-Lock, G-E.... 368
Bodies, Attachment, G-E 366
Bodies, G-E 390
Bodies, Twist-Lock, G-E 367
Caps, Attachment, G-E 363
Caps, G-E 363, 366
Caps, P & S..... 405
Caps, P & S-Despard..... 399
Caps, Polarity, G-E 364, 365
Caps, Polarized, P & S..... 405
Caps, Twist-Lock, G-E ..367–369
Casing, Fuse, G-E..... 375
Fuses, G-E 375
Receptacle Housings, Crouse-Hinds 79, 80, 85, 87, 122
Receptacles, Condulet, Obround 74
Receptacles, Crouse-Hinds .. 90
Receptacles, R & S..... 158
Receptacles, Triploc, P-N 150–152
Plugging Boxes, Kliegl..... 806
Plugs, Attachment, G-E..... 390
Cable, Crouse-Hinds 121
Conduit, Orangeburg 882
Ever-Lok, R & S.....415, 416, 418–421
Interlocking, Crouse-Hinds.. 124
Knockout, T & B..... 64
Marine, R & S..... 160
Pipe, Crouse-Hinds 99
Receptacle, Marine, R & S.. 161
Receptacle, R & S..... 158
Receptacle, Triploc, P-N 151, 152
Receptacle, Watertight, P-N 151
Rubber, ProTex 414
Rubber, Safeway 414
Test, G-E 578, 579
Watertight, Crouse-Hinds .. 79
Plugs and Pockets, Stage, Kliegl 805
and Receptacles, Arktite, Crouse-Hinds 112–119
and Receptacles, Quelarc, P-N 149, 153
Plugmold and Fittings, Wiremold 197–199
Plugtrim, Wiremold 198
Pocket Meters, Sterling..1009, 1010
Tool Cases, Klein 981
Tool Kits, Klein 984
Pockets and Plugs, Stage, Kliegl 805
Points, Drill, Diamond..... 990
Polarity Outlets, G-E.....364, 365
Pole Attachments, Pike, Bartlett 951
Binder, Utility 969
Brackets, Wood 889
Line Hardware 897–912
Markers, Premax 921
Saws, Bartlett 952
Steps, Wood 889
Tags, Aluminum 921
Poles, Monotube, Union Metal 885
Pike, Oshkosh 947
Red Cedar, Page & Hill..... 886
Traffic Signal, American Concrete 731

Page

Poles, Traffic Signal, Union Metal ... 732
Yellow Pine, Southern ... 887
Polishers, Electric, Thor ... 974
Porcelain Boxes, Ceiling ... 57
Boxes, Outlet ... 57
Boxes, Switch ... 57
Bushings, Federal ... 325
Cleats, Wire ... 323
Covers, Outlet Box ... 57
Covers, Receptacle ... 57, 409
Covers, Switch Box ... 57
Insulators, PP ... 326
Knobs, Emily ... 326
Knobs, Telephone ... 325
Lampholders, G-E ... 351–354
Lighting Fixtures, Alabax ... 815–819
Receptacles ... 409, 410
Receptacles, P & S ... 407–409
Receptacles, Paulding ... 409
Receptacles, Surfolet ... 410
Rosettes, G-E ... 353
Sockets, P & S ... 406, 409
Switches, Surfolet ... 410
Tubes ... 324
Tubes, High Voltage ... 324
Portable Instruments, G-E 486–490
Searchlights, Unity ... 1000
Transformers, G-E ... 477
Post Hole Spoons, Oshkosh ... 948, 949
Potential Transformers, G-E ... 477
Potheads, G & W ... 298–300
Pots, Fire, C & L ... 995, 996
Melting, C & L ... 996
Metal-Melting, G-E ... 641, 642
Pouches, Rubber Glove, Klein 981
Power Cable, Deltabeston ... 264–268
Distribution Systems, Flex-A-Power, Trumbull ... 449–457
Transmission Towers, Ideco 744
Powerstat Light Dimming Equipment ... 808–810
Premax Metal Markers ... 921
Tags, Pole ... 921
Prescolite Lighting Fixtures, Recessed ... 795, 796
Pressure Connectors, G-E ... 314
Terminals, G-E ... 314
Protection Equipment, Lightning, Rotating Machine, G-E ... 542, 543
Protectors, Cable, Cope ... 956
Circuit, G-E ... 723
Glove, Linemen's ... 965
Meter, G-E ... 538
Service, G-E ... 538
ProTex Lamps, Bunghole ... 867
Lamps, Portable ... 866, 867
Plugs, Rubber ... 414
Sockets, Rubber ... 413
Wiring Devices ... 413, 414
Pruners, Bartlett ... 951
Pry-Lite House Numbers, Illuminated ... 798
Lights, Closet ... 798
Lights, Night ... 798
Recessed Lighting ... 797, 798
Pryne Ventilators ... 670
Pull Adaptors, Levolier ... 412
Boxes, Steel, Columbia ... 58
Puller and Hoist, Blackburn ... 960
Pullers, Cable, Greenlee ... 945
Fish Tape, Ideal ... 945
Fuse, Ideal ... 379
Rod, Cope ... 956
Pulleys, Fibre, Rockwood ... 631
Pulling Rigging, Cable, Cope ... 956

Page

Punch Sets, Knockout, Greenlee ... 988
Push Button Blocks, Edwards 696
Button Conduletes ... 129–136
Button Panels, Edwards ... 694
Button Stations, R & S ... 162, 163
Button Switch Plates, G-E ... 371–373
Buttons, Elevator Call, Edwards ... 697
Buttons, Edwards ... 695
Pushers, Pipe, Greenlee ... 943
Pushes, Bell, P & S-Despard ... 400
Card-Holder Type, Edwards 698
Desk, Edwards ... 696
Entrance, Edwards ... 698
Floor, Edwards ... 696
Pendant, Edwards ... 695
Program Bell Panel, Edwards ... 697
Return Call, Edwards ... 695
Pyle-National Connectors, Triploc ... 150, 151
Plugs, Receptacle, Watertight ... 151
Receptacles, Plug, Triploc ... 150–152
Receptacles and Plugs, Quelarc ... 149, 153

Q

Q-Floor Duct Accessories, G-E ... 185–191
Duct Systems, G-E ... 180–191
Ducts, Header, G-E ... 183, 184
Tools, Installation, G-E ... 190
Qiklinks, Burndy ... 310
Qiklugs, Burndy ... 309
Qiktaps, Burndy ... 310
Quelarc Plugs and Receptacles, P-N ... 149, 153

R

R & S Boxes, Conduit ... 158
Circuit Breakers ... 156, 157
Connectors, Cord, Ever-Lok ... 415, 416, 418–421
Connectors, Watertight ... 159
Fittings, Conduit Box ... 159
Floodlights, Swimming Pool 743
Lighting, Fountain ... 743
Lighting, Landscape ... 743
Lighting, Underwater ... 743
Lighting Fixtures, Ceiling ... 168
Lighting Fixtures, Explosion-Proof ... 166
Lighting Fixtures, Vaportight ... 167, 168
Lighting Fixtures, Watertight ... 743
Lights, Curb ... 743
Lights, Pilot ... 162, 163
Panelboards, Explosion-Proof ... 156, 157
Plugs, Ever-Lok ... 415, 416, 418–421
Plugs, Marine ... 160, 161
Receptacles and Switch, Marine ... 160, 161
Receptacles and Plugs ... 157, 158, 165
Receptacles, Ever-Lok ... 415–421
Receptacles, Marine ... 160, 161
Starters, Automatic ... 155
Starters, Combination ... 155

Page

R & S Starters, Manual ... 154
Starters, Motor ... 154, 155
Stations, Push Button ... 162, 163
Switches, Marine ... 160
Switches, Selector ... 163
Switches, Tumbler ... 162
Switches, Watertight ... 159
Unilarm ... 164
Raceway Fittings, Wiremold ... 193–200
Raceways, CurtiStrip ... 201
Feedrail ... 203–205
Fibreduct, G-E ... 171–179
Keystone ... 192
Pancake, Wiremold ... 197, 199
Pierceway ... 202
Q-Floor, G-E ... 180–191
Seamless, Everdur ... 11
Underfloor, Excerpts from N. E. Code ... 170
Wiremold ... 193–200
Racks, Cable, Cope ... 919, 920
Radio Batteries, Eveready ... 1007–1009
Fuses, Buss ... 378
Insulators, PP ... 326
Outlets, P & S-Despard ... 399
Panel Lamps ... 876
Rails, Guard, Cope ... 954
Railway Lamps ... 875
Raintight Connectors, G-E ... 22
Couplings, G-E ... 22
Range Cord Sets, G-E ... 366
Outlets, G-E ... 365
Wire, Deltabeston ... 270
Ratchet Die Stocks ... 941
Lever Hoists, Coffing ... 959
Rauland Intercommunication Systems ... 705
Paging Systems ... 706
Sound Systems ... 706
Rawlplug Anchors, Screw ... 924
Reamers, Conduit, Lightning ... 941
Ratchet, Capewell ... 941
Thor ... 971
Receiving Tubes, G-E ... 460
Receptacle Conduletes, Plug, Crouse-Hinds ... 90, 122
Covers, Porcelain ... 57, 409
Housings, Crouse-Hinds ... 79, 80, 85, 87, 122
Plugs, Crouse-Hinds ... 121
Plugs, Marine, R & S ... 161
Plugs, Triploc, P-N ... 151, 152
Plugs, Watertight, P-N ... 151
Receptacle and Switch, Marine, R & S ... 160, 161
Receptacles, Angle Type, R & S ... 165
Ceiling, G-E ... 351
Cleat, Monowatt ... 393
Cleat, P & S ... 407, 408
Ever-Lok, R & S ... 415–421
Fixtures, P & S ... 408
Lamp, Condulet ... 74, 87
Lamp, Watertite ... 413
Mogul, P & S ... 409
Outlet Box, P & S ... 407
Pilot Light, G-E ... 371
Plastic, G-E ... 351
Plug, Condulet, Obround ... 74
Plug, Crouse-Hinds ... 90, 122
Plug, R & S ... 158
Plug, Triploc, P-N ... 150–152
Polarized, P & S ... 405
Porcelain, PP ... 409, 410
Porcelain, G-E ... 351, 352
Porcelain, P & S ... 407–409
Porcelain, Paulding ... 409

Page

Receptacles, Porcelain, Surfolet 410
Pull Chain, G-E 351
Pull Chain, P & S.....407, 408
Rubber, Safeway 413
Screw Ring, P & S..... 408
Series, G-E 720
Sign, G-E 351
Sign, P & S..... 408
Receptacles and Plugs, Arktite, Crouse-Hinds 112–119
Circuit Breaking, P-N....149, 153
Quelarc, P-N 149, 153
Triploc, P-N 150–152
Receptaplugs, Edwards 696
Recessed Lighting Equipment, Curtis 788, 789
Lighting Fixtures, Day-Brite 748, 749, 786, 787
Lighting Fixtures, Holophane 752, 790–794
Lighting Fixtures, Kliegl .. 806
Lighting Fixtures, Prescolite 795, 796
Lighting Fixtures, Pry-Lite 797, 798
Lighting Fixtures, Swivelier 799, 803
Troffers, Fluorescent 747
Troffers, Fluorescent, Day-Brite 748, 749
Reco Flashers, Sign..... 811
Recording Instruments, G-E 484, 485
Rectifier Bulbs, Tungar..... 650
Stacks, G-E 652
Reducers, Conduit, G-E..... 13
Conduit, Orangeburg 882
Condulet, Crouse-Hinds 100, 101
Fibreduct 175
Fuse, Ideal 374
Reducing Bushings, Jake..... 29
Locknuts, Diamond G..... 65
Sleeves, National 320
Washers, Diamond G 65
Washers, T & B..... 64
Reel and Meter, Wire, Minneapolis 996
Reel Hoists, Utility..... 969
Jacks, Cable, Duff-Norton.... 958
Supports, G-E 388
Reelites, Constant Duty, Appleton 859, 860
Portable, Appleton 858, 860
Reels, Cord, Safeway..... 866
Cord, Zoo 861
Fish Tape, Ideal..... 945
Payout, Minneapolis 996
Payout and Take-Up, Minneapolis 996
Reflector Guards, Steber..... 849
Lamps, G-E 873
Sockets, Miller-Ivanhoe 837
Sockets, P & S..... 406
Units, X-Ray 773, 820
Reflectors, Crouse-Hinds 103, 107, 108
Curtis 773
Fluorescent, Wiremold 774, 775, 777
Fluracite 773
Miller-Ivanhoe 836, 838, 839, 841
Pilot Light, P & S-Despard.. 400
Show Window, Curtis..... 773
Steber 845, 846
Refractolens, Holophane 834
Refractor Units, Holophane.... 833
Regulators, Load, Wesix..... 648
Relay Heaters, Trumbull..... 436

Page

Relays, Burglar Alarm, Edwards 695
Overload, Trumbull 440
Remote Control, G-E..... 387
Switchgear, G-E 582, 583
Reliable Connectors, Cable..... 318
Sleeves, Copper 318
Sleeves, Splicing 318
Splicers, Straightline 319
Splices, Wire 319
Strandlinks 319
Remote-Control Switches, G-E 386, 726
Wire, G-E 226, 387, 388
Wiring Systems, G-E.....380–389
Renewable Fuses, Enclosed, G-E 376
Renewal Links, Fuse, G-E 376. 548, 549, 551
Replacement Switch Units, Crouse-Hinds 126
Residence Panels, Trumbull.... 431
Resistance Wire, Nichrome..... 296
Resurfacers, Commutator, Ideal 976
Return Call Pushes, Edwards.. 695
Call Stations, Edwards..... 687
Rheostat Wire, Deltabeston.... 278
Rigid Conduit, Everdur..... 11
Conduit, Steel, G-E.....9, 10
Rigging, Cable Pulling, Cope.. 956
Ringing Drops, Constant, Edwards 700
Rings, Bridle, Diamond..... 933
Cable, National 921
Drive, Diamond 933
Hanger, Paine 43
Toggle, Paine 932
Rip Cord, G-E..... 242
Ripper and Wire Gauge, Cable, Ideal 977
Rockwood Pulleys, Fibre..... 631
Rod Adapters, Cope..... 954
Clamps, Ground, Blackburn 915
Pullers, Cope 956
Rods, Conduit, Cope..... 954
Ground, Blackburn 915
Ground, Chance 962
Hanger, Kindorf 48, 50
Roll Board, Asbestos, J-M..... 343
Roller Cable Outlets, Appleton 860
Roller-Tray Ovens 646
Rope Clips, Wire, U-W..... 917
Thimbles, Wire, U-W..... 917
Rosette Caps, Crouse-Hinds.... 88
Rosettes, Cord, Condulet, Obround 74
Cord, Porcelain 410
Porcelain, G-E 353
Rotary Switch, G-E..... 353
Rubber Belts, Goodrich.....632–634
Connectors, Cord, Safeway.. 414
Gloves 965
Plugs, ProTex 414
Receptacles, Safeway 413
Sockets, ProTex 413
Tape, Goodrich 346
Tape, Monowatt 397
Tape, Okonite 345
Ruberoid Paints, Insulating.... 347
Rubber-Insulated Cable, Building 288
Cable, G-E 234–236, 239, 240, 247–250
Cable, Lead Covered..... 289
Wire, Building 288
Wire, Lead Covered..... 289
Rubber-Jacketed Cords, G-E 241, 242

Page

Rural Line Transformers, G-E 522, 523

S

Saddle and Tightener, Wire Tong, Chance 964
Safety Cans, Justrite.....1011
Equipment, Circuit, Groundulet 90
Switches, Trumbull 424–427
Safeway Connectors, Cord, Rubber 414
Lamps, Portable 866
Lovolt 866
Plugs, Rubber 414
Receptacles, Rubber 413
Reels, Cord 866
Wiring Devices 413
Sal Ammoniac, Brick, Allen.... 329
Salisbury Bags, Line Hose..... 965
Bags, Tool 965
Salts, Soldering, Allen..... 329
Soldering, Kester 330
Soldering, Nokorode 328
Samson Spot Cord..... 920
Sand Scoops, Conduit, Cope.... 955
Sanders, Electric, Thor..... 973
Saw Blades, Hack, Capewell.. 986
Blades, Hack, Simonds..... 985
Frames, Hack, Capewell..... 987
Sheaths, Bartlett 953
Saws, All-Purpose, Dafiles, Capewell 987
Commutator Slotting, Ideal.. 976
Compass, Mephisto 992
Electric, Thor 974
Pole, Bartlett 952
Pruning, Bartlett 951–953
Tree Trimming, Bartlett 952, 953
Scissors, Electrician, Klein..... 984
Scoops, Sand, Conduit, Cope.... 955
Scotch Tape, Electrical.....346, 347
Screw Anchors, Ackerman-Johnson 925, 926
Anchors, Chance 914
Anchors, Diamond 926
Anchors, Paine 927
Anchors, Rawlplug 924
Anchors, Star 928
Eyes, Insulated, Diamond.... 933
Pitch Gauge, B & S..... 993
Screwdrivers, Electric, Thor.. 792
Mephisto 992
Yankee 992
Screws, Lag, Paine..... 43
Leveling, Fiberduct, G-E..... 174
Machine 935, 936
Machine, Paine 932
Wood 934
Scrulugs, Burndy 309
Sealing Bushings, O.Z. 302
Compounds, G-E 338
Sealtite Conduit, American..... 12
Fittings, Conduit 12
Seals, Knockout, Diamond G.. 65
Searchlights, Portable, U-C-Lite 1002
Portable, Unity 1000
Seater, Brush, Ideal..... 976
Service Cable Support, G-E..... 36
Connectors, Penn-Union 315
Entrance Cable, Excerpts from N. E. Code..... 33
Entrance Cable, G-E 230
Entrance Connectors, Crouse-Hinds 89
Equipment, Trumbull 431

Page

Service Switches, Meter, Trumbull ... 431
Servits, Burndy ... 312
Shadeholders, G-E ... 354
Monowatt ... 397
Steber ... 849
Sheaths, Saw, Bartlett ... 953
Sherman Clamps, Armor-Rod ... 917
Clamps, Ground ... 40
Clamps, Jumper ... 917
Lugs, Soldering ... 317
Shields, Expansion, Diamond ... 930
Expansion, Keystone ... 930
Expansion, Paine ... 927
Expansion, Star ... 929
Shovels, Oshkosh ... 948, 949
Showcase Lighting, Day-Brite ... 779
Lighting, Garcy ... 778
Sign Assembly, Winker, Eagle ... 422
Cable, Neon, G-E ... 228
Flashers, Reco ... 811
Receptacles, P & S ... 408
Signal Call, Federal ... 676
Condulets, Crouse-Hinds ... 139
Condulets, Horn, Crouse-Hinds ... 143
Signaling Devices, Hospital, Faraday ... 691
Systems, Edwards ... 692
Transformers, Edwards ... 699
Transformers, Faraday ... 699
Signakall, Federal ... 676
Signals, Faraday ... 674, 675
Traffic, G-E ... 728–730
Signs, Exit, Day-Brite ... 804
Silicone Insulations, G-E ... 340
Sill Plates, G-E ... 36
Silvey Hickeys ... 944
Simonds Blades, Hack Saw ... 985
Sirens, Edwards ... 678
Faraday ... 675
Federal ... 676
Skedoodle Flashers, Reco ... 811
Sleeve Clamps, Klein ... 979
Sleeves, Cable, Reliable ... 318
Dead-End, National ... 321
Insulating, G-E ... 13
Reducing, National ... 320
Splicing, National ... 320, 321
Splicing, Reliable ... 318
Tree Trimmer, Bartlett ... 950
Sleeves and Hub Nuts, Condulet ... 94
Sleeving, Cotton, Hope ... 343
Slow Burning Wire ... 293
Snapicoil, Wiremold ... 198
Snap-In Blanks ... 64
Bushings ... 64
Snips, Mephisto ... 992
Socket Bodies, G-E ... 350
Bodies, Porcelain, P & S ... 406
Caps, GE ... 350
Caps, Porcelain, P & S ... 406
Taps, G-E ... 394
Sockets, Duplex, P & S ... 406
Fixture, McGill ... 412
Husk, P & S ... 406
Industrial, McGill ... 412
Lampholder, Monowatt ... 392–394
Mogul, P & S ... 409
Porcelain, P & S ... 406, 409
Reflector, Miller-Ivanhoe ... 837
Reflector, P & S ... 406
Rubber, ProTex ... 413
Starter, Fluorescent Lamp, G-E ... 359
Street Lighting, G-E ... 720
Watertight, Weatherproof ... 413
Solder, Kester ... 330

Page

Solder, Stainless Steel, Allen ... 329
Soldering Flux, Allen ... 329
Liquid, Allen ... 329
Lugs, Sherman ... 317
Materials, G-E ... 328
Paste, Allen ... 329
Paste, Kester ... 330
Paste, McGill ... 328
Paste, Nokorode ... 328
Salts, Allen ... 329
Salts, Kester ... 330
Salts, Nokorode ... 328
Sticks, Allen ... 329
Sticks, McGill ... 328
Tools, Ideal ... 975
Solderless Connectors, Burndy ... 308–313
Connectors, Ideal ... 323
Connectors, O.Z. ... 313, 314
Connectors, T & B ... 306
Connectors, Trumbull ... 458
Lugs, Blackburn ... 315
Lugs, O.Z. ... 314
Lugs, Penn-Union ... 315, 316
Lugs, T & B ... 306, 307
Sound Systems, Rauland ... 706
Spacers, Channel, Kindorf ... 45, 46
Conduit, Orangeburg ... 883
Speed Indicator, B & S ... 993
Testers, Stewart-Warner ... 1010
Splicers, Wire, T & B ... 307
Splices, Pigtail, Sta-Kon, T & B ... 305
Straightline, Reliable ... 319
Splicing Kit, Cable, G & W ... 348
Sleeves, National ... 320, 321
Sleeves, Reliable ... 318
Spoons, Post Hole, Oshkosh ... 948, 949
Spot Cord, Samson ... 920
Spotlights, Stage, Kliegl ... 806, 807
Springs, Burglar Alarm, Edwards ... 700
Spuds, Digging, Oshkosh ... 948
Stacks, Rectifier, G-E ... 652
Stage Lighting, Kliegl ... 805–807
Sta-Kon Connectors, T & B ... 305
Splices, Pigtail, T & B ... 305
Terminals, T & B ... 305
Tools, T & B ... 306
Wire Joints ... 305
Standard Cross Arms, Fir ... 888, 889
Lights, Shop, Magnet Base ... 868
Lights, Trouble ... 868
Standards, Lighting ... 716, 717
Portable, G-E ... 470
Street Lighting, Aluminum, G-E ... 715
Stands, Vise, Portable, Armstrong ... 938
Vise, Williams ... 938
Stanley Bit Extensions ... 991
Braces, Bit ... 991
Staples, Cable, G-E ... 30, 32
Insulated, Emerson ... 933
Insulated, Monowatt ... 397
Star Anchors, Bolt ... 928
Anchors, Dryvin ... 928
Anchors, Screw ... 928
Anchors, Tampin ... 928
Bolts, Expansion ... 929
Shields, Expansion ... 929
Tools, Setting ... 928
Tools, Tampin ... 928
Starter Condulets, Crouse-Hinds ... 144, 145
Sockets, Fluorescent Lamp, G-E ... 359
Switches, Fluorescent, G-E ... 359

Page

Starter Testers, Fluorescent Lamp, Compco ... 878
Starters, Automatic, R & S ... 155
Combination, R & S ... 155
Fluorescent, G-E ... 355
Heavy-Duty, Magnetic-Time, G-E ... 620
Magnetic, G-E ... 614, 616–618
Magnetic, Trumbull ... 437–439
Manual, G-E ... 614
Manual, R & S ... 154
Manual, Trumbull ... 435
Motor, R & S ... 154
Motor, Trumbull ... 435–439
Time, G-E ... 619
Stations, Calling, Nurses', Edwards ... 689, 690
Emergency, Edwards ... 701
Fire Alarm, Edwards ... 701
Fire Alarm, Faraday ... 702
Push Button, G-E ... 620, 621
Push Button, R & S ... 162, 163
Return Call, Edwards ... 687
Steber Cargolites ... 846
Color Equipment ... 848
Coverlites ... 849
Floodlights ... 847, 850–852
Guards, Reflector ... 849
Holders, Lens ... 848
Lampholders, Floodlight ... 850–852
Lenses, Color ... 848, 850
Lenses, Heat Resisting ... 848
Lighting Units, Haymow ... 849
Louvers ... 848
Reflectors ... 845, 846
Shadeholders ... 849
Utilites ... 847
Yardlights ... 848, 849
Steberlites ... 850, 852
Steel, Tool, Capewell ... 987
Steel Cabinets, Columbia ... 59, 60
Conduit, Flexible, G-E ... 25
Conduit, Rigid, G-E ... 9, 10
Pull Boxes, Columbia ... 58
Rule, B & S ... 993
Screws, Machine ... 935, 936
Screws, Wood ... 934
Strand, Galvanized ... 922
Towers, Ideco ... 744
Stereopticon Lamps, G-E ... 871
Sterling Pocket Meters ... 1009, 1010
Stewart-Warner Tachometer ... 1010
Sticks, Clamp, Chance ... 964
Soldering, Allen ... 329
Soldering, McGill ... 328
Tie, Chance ... 964
Stock, Flat, Capewell ... 987
Stocks and Dies, Armstrong ... 939, 940
Stones, Commutator, Ideal ... 976
Strain Insulators, Elreco ... 918
Insulators, Keystone ... 918
Strand, Steel, Galvanized ... 922
Strandlinks, Reliable ... 319
Straps, Appliance, P & S-Despard ... 400
Cable, Diamond ... 41
Cable, G-E ... 30, 32, 36
Climbers', Klein ... 980
Conduit, Kindorf ... 46, 49
Grounding, Groundulet ... 90
Messenger Cable, Minerallac ... 64
Mounting, P & S-Despard ... 401
Pipe ... 12
Pipe, G-E ... 19
Plastic ... 42
Safety, Klein ... 981

Page

Street Lighting Equipment, G-E 710–720
Strip, Fluorescent, Wiremold 774–777
Strippers, Wire, Ideal 977
Studs, Fixture, G-E 19
Fixture, Kwikon 19
Substations, Load Center, G-E 584
Supports, Cable, O.Z. 303
Conduit, Korns 44
Conduit, T & B 44
I-Beam, Kindorf 49
Reel, G-E 388
Service Cable, G-E 36
Switch Box, G-E 54
Wire, Crouse-Hinds 88
Surfolet Wiring Devices 410
Suspension Clamps, Locke 893
Insulators, Locke 893, 894
Switch Box Covers, Porcelain 57
Box Supports, G-E 54
Boxes, Excerpts from N. E. Code 51
Boxes, G-E 52
Boxes, Porcelain 57
Conduits, Crouse-Hinds 127, 131, 143
Conduits, Safety, Crouse-Hinds 128
Conduits, Selector, Crouse-Hinds 134
Connectors, G-E 394
Keys, Locking, G-E 361
Plates, Push, G-E 371–373
Plates, Tumbler, G-E 371–373
Units, Replacement, Crouse-Hinds 126
Switch and Conduit, Safety, Crouse-Hinds 124
and Plate, Combination, G-E 391
and Receptacle, Marine, R & S 160, 161
Switchboard Instruments, G-E 478–481
Watthour Meters, G-E 469
Wire, Deltabeston 277, 278
Switchboards, Metal-Enclosed, G-E 555–557
Trumbull 447, 448
Switches, Bell Pull, Edwards 697
Box Cover, P & S 405
Canopy, G-E 360
Control, Circuit Breaker, G-E 571–574
Door, P & S 404
Enclosed, Trumbull 424–428
Float, G-E 621
Fuse Puller, Trumbull 431
Heater, G-E 360
Knife, G-E 575–577
Knife, Trumbull 428, 429
Levolier, McGill 410–412
Limit, G-E 622, 624
Lock, Burglar Alarm, Edwards 700
Marine, R & S 160
Mark-Time 491, 492
Mercury, G-E 391
Meter Service, Trumbull 431
Momentary Contact, P & S-Despard 398
Motor-Starting, G-E 612, 613, 615
Multiple, G-E 726
Panel, G-E 360
Pony-Type, G-E 360
Pressure and Vacuum, G-E 622

Page

Switches, Remote-Control, G-E 386
Safety, Trumbull 424–427
Selector, R & S 163
Special Application, G-E 359, 360
Starter, Fluorescent, G-E 359
Thru-Cord, G-E 360
Time, G-E 475–477
Time, Inter-Matic 492
Toggle, McGill 410, 411
Toggle, Monowatt 391
Transfer, G-E 571–574
Tumbler, Flush, G-E 361
Tumbler, Flush, P & S 404
Tumbler, P & S-Despard 398, 399
Tumbler, Porcelain, Surfolet 410
Tumbler, R & S 162
Tumbler, Surface, G-E 360
Watertight, R & S 159
Weatherproof, P & S 404
Switchettes, G-E 629, 630
Switchgear, G-E 554
Switchgear Equipment, G-E 562–564
Swivelier Channelites, Adjustable 802
Gyro-Lites 803
Lenses, Color 800
Lighting Units, Adjustable 799–803
Louvers 800

T

T & B Balls, Fish Tape 944
Boxes, Junction, Cast Iron 60
Bushings, End 16
Bushings, Insulated 16
Clamps, Conduit 44
Connectors, Cable 306
Connectors, Conduit 18
Connectors, Lock-Tite 306
Connectors, Solderless 306
Connectors, Sta-Kon 305
Connectors, Wire 306
Couplings, Conduit 18
Fittings, Conduit 16, 18
Hangers, Conduit 44
Hangers, Disconnect 868
Hickey, Lakin 944
Lugs, Lock-Tite 306
Lugs, Solderless 306, 307
Lugs, Wedge-On 307
Plates, Ground 915
Plugs, Knockout 64
Splicers, Wire 307
Splices, Pigtail, Sta-Kon 305
Supports, Conduit 44
Tape, Fish 944
Taps, Cable 307
Taps, Parallel 307
Terminals, Sta-Kon 305
Terminals, Wire 307
Tools, Sta-Kon 306
Tools, Wedge-On 307
Washers, Reducing 64
Wire Joints, Sta-Kon 305
Wrenches, Key 306
Tachometers, Ideal 1010
Stewart-Warner 1010
Tackle Blocks, B & L 960
Tackles, Block, Klein 983
Tags, Pole, Premax 921
Tal Hydraulic Pipe Benders 942
Tamping Bars, Oshkosh 947, 948
Tap Clamp, Chance 963

Page

Tapes, Cloth, Glass, G-E 340
Electrical, Scotch 346, 347
Fish, Ideal 945
Fish, T & B 944
Friction, Firestone 345
Friction, J-M 345
Friction, Manson 345
Friction, Monowatt 397
Hope 343
Insulating, P & B 346
Mica, G-E 341
Paper, Asbestos, J-M 344
Rubber, Monowatt 397
Rubber, Okonite 345
Two-In-One, Goodrich 346
Varnished, G-E 342
Woven, J-M 344
Tappers, Electric, Thor 972
Taps, Cable, Burndy 310, 311
Cable, Penn-Union 316
Cable, T & B 307
Gutter, Burndy 311
Parallel, T & B 307
Socket, G-E 394
Triple, G-E 379
T-Connectors, Burndy 311
T-Fittings, Wireway, Keystone 192
Tees, Crouse-Hinds 89
Telefaults, Woodpecker, Matthews 1011
Telegraph Wire, Galvanized 922
Teleheight, Matthews 1011
Telephone Booths, Burgess 708
Cable 290
Cable, Mine, G-E 229
Cells, Eveready 1007
Knobs, Porcelain 325
Plates, G-E 371, 373
Systems, Intercommunicating, Edwards 702
Wire, Galvanized 922
Telephones, Apartment House, Edwards 703
Intercommunicating, Edwards 702
Wheeler 707
Tents, Aerial, Cope 954
Terminal Lugs, Burndy 308–310
Lugs, Penn-Union 316
Terminals, Cable, Burndy 308–310
Clamp, Groundulet 90
Current Transformer, Burndy 313
Pressure, G-E 314
Sta-Kon, T & B 305
Wire, T & B 307
Terminators, Cable, O.Z. 301
Test Light and Fuse Puller, Ideal 379
Test-Glo, Ideal 378
Testers, Fluorescent Fixture, Flur-Test 878
Fluorescent Lamp and Starter, Compco 878
Insulation, Ideal 1010
Oil, Portable, G-E 524
Speed, Stewart-Warner 1010
Voltage, Ideal 379
Theatre Cable, Drive-In, G-E 229
Thermador Heaters, Fan Type 648
Heaters, Portable 648
Heaters, Wall 648
Thermo-Grip Tools, Ideal 975
Thermostat Condulets, Crouse-Hinds 142, 143
Control Cable 290
Thermostats, Industrial Heating, G-E 642

Page

Thermostats, Wesix 647
Thimbles, Wire Rope, U-W..... 917
Thompson Hangers, Lowering 853–857
Thor Drill Stands..... 971
Drills, Electric 970, 971
Grinders, Bench 975
Grinders, Portable 974
Hammers, Electric 973
Kits, Air Tool..... 974
Nibblers, Electric 975
Polishers, Electric 974
Reamers 971
Sanders, Electric 973
Saws, Electric 974
Screwdrivers, Electric 792
Tappers, Electric 972
Wrenches, Impact 971
Threaders, Pipe, Armstrong.... 940
Pipe, Capewell 941
Thrustors, G-E 625
Tie Sticks, Chance..... 964
Time Meters, G-E.....476, 477
Switches, G-E 475–477
Switches, Inter-Matic 492
Switches, Mark-Time 491, 492
Timers, Bell, Mark-Time....491, 492
Chime, Mark-Time 492
Timing Devices, G-E.....475–477
Toaster Elements, Eagle..... 422
Toggle Bolt Clamps, Paine..... 931
Bolts, Paine 931, 932
Rings, Paine 932
Switches, Monowatt 391
Switches, McGill 410, 411
Tomic Connectors, Cable..... 30
Connectors, E.M.T. 23
Couplings, E.M.T. 23
Tongs, Pipe, Vulcan, Williams 941
Wire, Chance 903
Tool Bags, Klein..... 982
Bags, Salisbury 965
Belts, Klein 980
Cases, Pocket, Klein..... 981
Kits, Air, Thor 974
Kits, Fiberduct, G-E 178
Kits, Kennedy 994
Kits, Pocket, Klein 984
Pockets, Klein 981, 982
Set, Chance 962
Truck Bodies, Utility.....966, 967
Tooling Lathes, Conduit, Orangeburg 884
Tools, Briegel, E.M.T., G-E.... 23
Cable, Cope 954, 956, 957
Champion DeArment 978
Cleaning, Conduit, Cope..... 955
Conduit, Cope 955
Connector, Burndy 308
Fiberduct, G-E 179
Installation, Q-Floor Wiring 190
Klein 978–984
Mephisto 978
Pipe, Capewell 941
Pipe Threading, Armstrong 939, 940
Setting, Ackerman-Johnson 925, 926
Setting, Star 928
Soldering, Ideal 975
Splicing, National 322
Sta-Kon, T & B..... 306
Tampin, Star 928
Thermo-Grip, Ideal 975
Wedge-On, T & B..... 307
Torches, Blow, C & L..... 995
Towers, Steel, Ideco..... 744
Tracks, Power, Feedrail....203–205
Trailers, Utility 967

Page

Transfer Switches, G-E.....571–574
Transformer Cabinets, Columbia 60
Conduits, Crouse-Hinds 139
Transformers, B-B, G-E..... 503
Chime, Edwards 699
Control, G-E 507–510
Constant-Current, G-E 721
Current, G-E 477
Display Sign, G-E..... 499
Distribution, G-E 514–522, 524–530
Doorbell, Edwards 699
Doorbell, Faraday 699
Doorbell, Monowatt 396
Dry-Type, G-E 503–506
Indoor Hanger, G-E..... 497
Luminous Tube, G-E.....497–499
Machine-Tool, G-E 511–513
Outdoor, G-E 498
Phase Changing, G-E..... 505
Portable, G-E 477
Potential, G-E 477
Powacall, Faraday 699
Remote-Control, G-E 387
Rural-Line, G-E 523
Service, G-E 503, 504
Series, G-E 723, 724
Sign, G-E 499
Signal, G-E 507–510
Signaling, Edwards 699
Signaling, Faraday 699
Transite, J-M 344
Treads, Floor, Dixie..... 696
Floor, Edwards 696
Tree Paint, Bartlett..... 953
Trimmers, Bartlett 950, 951
Trimmers, Oshkosh 949
Trimming Saws, Bartlett 952, 953
Trimmers, Tree, Bartlett....950, 951
Tree, Oshkosh 949
Triploc Connectors, P-N....150, 151
Plugs, Receptacle, P-N....151, 152
Receptacles, Plug, P-N....151, 152
Troffers, Recessed, Fluorescent 747
Recessed, Fluorescent, Day-Brite 748, 749
Trolley Material, Elreco..... 918
Trolleys, Feedrail 204–206
Truck Bodies, Tool, Utility 966, 967
Trumbull Circuit Breakers 432–434
Connectors, Solderless, Cable 458
Contactors, Magnetic 437, 438
Distribution Systems, Flex-A-Power 449–457
Heater Units 440
Heaters, Relay 436
Panelboards, Circuit Breaker 441–443
Panelboards, Lighting, ...441, 443–445
Panelboards, Power Distribution 446
Panels, Residence 431
Relays, Overload 440
Service Equipment 431
Starters, Magnetic 437–439
Starters, Manual 435
Starters, Motor 435–439
Switchboards 447, 448
Switches, Enclosed 424–428
Switches, Fuse Puller 431
Switches, Knife 428, 429
Switches, Meter Service 431
Trumbullite Load Centers..... 430

Page

Trumpets, Air, Faraday..... 675
Tubes, Electronic, G-E.....460–464
Floor, Porcelain 324
High Voltage, Porcelain..... 324
Unglazed, Porcelain 324
Tubing, Braided, Asbestos, J-M 344
Electrical Metallic, Everdur 11
Electrical Metallic, G-E 21
Electrical Metallic, N. E. Code..... 20
Tumbler Switch Conduits 125, 126
Switch Plates, G-E.....371–373
Switches, Flush, G-E 361
Switches, Heavy Duty, G-E 360
Switches, P & S..... 404
Switches, P & S-Despard 398, 399
Switches, Porcelain, Surfolet 410
Switches, R & S..... 162
Switches, Surface, G-E 360
Tungar Battery Chargers..651, 652
Rectifier Bulbs 650
Turnbuckles, U-W 917
Twines, Marlin 920
Twist Drills, Diamond..... 989
Two-In-One Tape, Goodrich.... 346

U

U-C-Lite Lamps, Hand, Big Beam 1002
Underfloor Distribution Systems, Q-Floor, G-E 180–191
Raceway, Excerpts from N. E. Code..... 170
Unilarm, R & S..... 164
Uniline Plates, G-E..... 371
Plates, P & S-Despard..... 402
Union Metal Monotube Poles.. 885
Metal Poles, Traffic Signal.. 732
Unions, Conduit, Crouse-Hinds 99
Unitaps, Burndy 311
Unity Searchlights, Portable....1000
Universal Blocks, Sheave..... 968
Clips, Mueller 322
Hangers, Messenger 910
Utilites, Steber 847
Utility Binder, Pole..... 969
Derricks, Construction 968
Drawbars 968
Hoist, Reel 969
Motors, G-E 602
Platform, Aerial 969
Sets, American Blower 662–664, 666–668
Trailers 967
Truck Bodies, Tool and Service 966, 967
Unit, Remote-Control, G-E.. 387
U-W Clips, Wire Rope..... 917
Thimbles, Wire Rope..... 917
Turnbuckles 917

V

V-Belts, Goodrich 634
Vacuum Cleaners, Industrial, G-E 998–1000
Gage, Thermocouple, G-E.... 490
Valves, Drain and Breather, Crouse-Hinds 102
VaproTex Lamps, Bunghole.... 867
Lamps, Portable 867
Vaportight Fixtures, Crouse-Hinds 85, 87, 105–109

Page

Varilugs, Burndy 309
Varitaps, Burndy 311
Varnished Cloth and Tape, G-E 342
Varnishes, Insulating, G-E 336, 337
Ventilators, Blo-Fan, Pryne.... 670
Twin-Fan, G-E 672
Ventura Fans, American Blower 654–661
Versatol-Geoprene Cable, G-E 245
Versilinks, Burndy 311
Versilugs, Burndy 311
Versitaps, Burndy 311
Vise Stands, Pipe, Williams.... 938
Stands, Portable, Armstrong 938
Vises, Hollands 939
Pipe, Armstrong 938
Visularm, Crouse-Hinds 140, 141
Vitalizer, Battery, G-E..... 650
Volt-Ammeter, Hook-On, G-E.. 489
Voltage Testers, Ideal..... 379
Voltmeters, Panel, G-E.....482, 483
Portable, G-E 486–488, 490
Recording, G-E 484, 485
Switchboard, G-E 478–481
Vulcan Pipe Tongs..... 941

W

Wakefield Hangers, Fixture... 783
Lighting Units, Fluorescent 768–770
Luminaires, Fluorescent 768–770
Luminous-Acoustical Ceiling 750, 751
Wall Brackets, Kindorf.....47, 48
Plates, G-E 371–373, 386
Plates, Monowatt 392
Plates, P & S-Despard....401, 402
Washers, Reducing, Diamond G 65
Reducing, T & B..... 64
Waste Cans, Justrite.....1012
Watertight Connectors, G-E 34, 35
Receptacles, Lamp, Woodhead 413
Sockets, Weatherproof, Woodhead 413
Watt-Demand Meters, Thermal, G-E 474
Watthour Demand Meters, G-E 472–474
Jewels, Meter, G-E..... 471
Meters, G-E 466–474
Wattmeters, Hook-On, G-E..... 489
Switchboard, G-E 478, 481
Weatherproof Wire 293
Weaver Clamps, Hot Line..... 965
Webbing, Hope 343
Wedges, Bonding, G-E..... 40
Welding Cable, G-E..... 232
Wesix Furnaces, Floor..... 648

Page

Wesix Heaters, Baseboard..... 647
Heaters, Room 647
Regulators, Load 648
Thermostats 647
Wheeler Telephones 707
Whistles, Air, Federal..... 676
Williams Stands, Vise, Pipe.... 938
Tongs, Pipe 941
Wil-Son Infrared Ovens..... 645
Winker Buttons, Eagle..... 422
Sign Assembly, Eagle..... 422
Winkers, Eagle 422
Wire, Aircraft, Deltabeston 280–283
Aluminum 295
Annunciator 292
Appliance, Deltabeston 270–273
Appliance, G-E 225
Appliance Lead, Deltabeston 277
Bell, Monowatt 396
Boiler Room, Deltabeston 265, 267
Building, Rubber-Insulated.. 288
Building, Thermoplastic 290
Fixture, Deltabeston 275
Fixture, G-E 225
Fixture, Type RF 288
Guy, Galvanized 922
Lead-Covered, Rubber-Insulated 289
Locomotive Headlight, Deltabeston 279
Machine Tool, G-E..... 225
Magnet, G-E 284–286
Nichrome 296
Office, Damp-Proof 292
Range, Deltabeston 270
Remote-Control, G-E 226, 387, 388
Resistance, Nichrome 296
Rheostat, Deltabeston 278
Slow Burning 293
Switchboard, Deltabeston 276–278
Telegraph, Galvanized 922
Telephone, Galvanized 922
Weatherproof 293
Wire Brush Cleaner, Conduit, Cope 955
Clamps, Chance 963
Clamps, Klein 979
Cleats, Porcelain 323
Connectors, Blackburn 315, 916, 917
Connectors, Burndy 308–313
Connectors, Ideal 323
Cutters, Bartlett 953
Cutters, Insulated, Chance.. 962
Dimensions, Building 223
Gauges, American 993
Grips, Chicago 982, 983
Grips, Haven's 983
Grips, Klein 982, 983
Guards, Ivanhoe 844

Page

Wire Joints, T & B..... 305
Measuring Machines, Minneapolis 996
Mouldings 889
Reel and Meter, Minneapolis 996
Sleeves, National 320, 321
Solder, Kester 330
Splicers, T & B..... 307
Splices, Reliable 319
Strippers, Ideal 977
Supports, Crouse-Hinds 88
Terminals, Sta-Kon, T & B.. 305
Terminals, T & B..... 307
Tongs, Chance 963
Wire-Nuts, Ideal 323
Wires and Cables, Insulated, N. E. Code.....221–224
and Cables, Selection of, G-E 208–220
Wiremold Fittings, Raceway 193–200
Fluorescent Strip and Fittings 774–777
Plugmold and Fittings....197–199
Plugtrim 198
Raceways 193–200
Raceways, Pancake 197, 199
Reflectors 774, 775, 777
Snapicoil 198
Wiring Channel, CurtiStrip.... 201
Channel, Kindorf 45
Devices, Monowatt 390–398
Devices, ProTex 413
Devices, Safeway 413
Diagrams, P & S-Despard.... 403
Systems, Pierceway 202
Systems, Remote Control, G-E 380–389
Wireway Elbows, Keystone.... 192
Fittings, Keystone 192
T-Fittings, Keystone 192
Wireways, Keystone 192
Wood Brackets, Pole..... 889
Mouldings 889
Pins, Insulator 889
Screws 934
Steps, Pole 889
Wrenches, Impact, Thor..... 971
Key, T & B..... 306
Linemen's, Klein 984
Mephisto 978
Twisting Joint, Aluminum.... 295

Y

Yankee Screw Drivers..... 992
Yardlights, Steber 848, 849
Yellow Pine Poles..... 887

Z

Zoo Cord Reels..... 861
Flex-Lites 1004

Electrical Catalog Department
The Jaqua Company
Grand Rapids 2, Michigan